

[6560-50]

ENVIRONMENTAL PROTECTION AGENCY

[40 CFR Part 63]

[AD-FRL-]

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National Emission Standards for Hazardous Air Pollutants
for Source Categories: Proposed Regulations Governing
Compliance Extensions for Early
Reductions of Hazardous Air Pollutants

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The proposed rule would implement the provisions in Section 112(i)(5) of the Clean Air Act (as amended in 1990) ("the Act"). Those provisions allow an existing source to obtain a six-year extension of compliance with an emission standard promulgated pursuant to Section 112(d) of the Act if the source has achieved an emission reduction of 90 percent or more of hazardous air pollutants (95 percent or more for particulates) by certain dates specified in the Act. If the source is granted a compliance extension, an alternative emission limitation would be established by permit to ensure continued achievement of the emission reduction. The intended effect of the proposed rule is to establish requirements and procedures for source owners and operators to follow in order to obtain compliance extensions and for reviewing agencies to follow in evaluating requests for extensions.

DATES: Comments. Comments must be received on or before (45 days after publication in the FEDERAL REGISTER).

Public Hearing. If anyone contacts EPA requesting to speak at a public hearing by (2 weeks after proposal), a public hearing will be held on (about 4 weeks after proposal) beginning at 10:00 a.m. Persons interested in attending

the hearing should call Ms. Lina Hanzely at (919) 541-5673 to verify that a hearing will be held.

Request to Speak at Hearing. Persons wishing to present oral testimony must contact EPA by _____ (2 weeks after proposal).

ADDRESSES: Comments. Comments should be submitted (in duplicate if possible) to: Air Docket (LE-131), Attention Docket Number A-90-47 (see Docket section below), Room M1500, U. S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460.

Public Hearing. If anyone contacts EPA requesting a public hearing, it will be held at EPA's Office of Administration Auditorium, Research Triangle Park, North Carolina. Persons interested in attending the hearing or wishing to present oral testimony should notify Ms. Lina Hanzely (MD-13), U. S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone number (919) 541-5673.

Docket. Docket No. A-90-47, containing supporting information used in developing the proposed regulation and background information on the high-risk pollutant list, is available for public inspection and copying between 8:30 a.m. and 3:30 p.m., Monday through Friday, at EPA's Air Docket, Room M1500, U. S. Environmental Protection Agency, 401 M Street S.W., Washington, D.C. 20460. A reasonable fee may be charged for copying.

Documents. The emission estimating document may be obtained from the U.S. EPA Library (MD-35), Research Triangle Park, North Carolina 27711, telephone (919) 541-2777. Please refer to "Procedures for Establishing Emissions for Early Reduction Compliance Extensions - Volume 1" (EPA-450/3-91-012a). The EPA also has prepared an enabling document which is intended to aid EPA Regional Offices and the States in implementing the rule.

However, the information in this document also may be useful to the public and is available from the U.S. EPA Library (see above address). Please refer to "Enabling Document for Regulations Governing Compliance Extensions for Early Reductions for Hazardous Air Pollutants" (EPA-450/3-91-013).

FOR FURTHER INFORMATION CONTACT: Mr. David Beck, Chemicals and Petroleum Branch, Emission Standards Division (MD-13), U. S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone (919) 541-5421.

SUPPLEMENTARY INFORMATION: The information presented in this preamble is organized as follows:

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I. BACKGROUND AND PURPOSE

A. Clean Air Act Amendments: Provisions for Early Reduction

On November 15, 1990, the Clean Air Act was amended, and significant changes were made to section 112 of the Act establishing national emission standards for hazardous air pollutants (HAP). One of the new features of the Act is a provision in Section 112(i)(5) that allows an existing source to be granted a six-year extension of compliance with an otherwise applicable section 112(d) standard (MACT standard) upon demonstration by the owner or operator of the source that it has achieved a reduction of 90 per cent or more in emissions of HAP (95 percent or more in the case of particulates). An enforceable emission limitation reflecting the reduction would then be established for the source by a permit. The emission reduction would have to be achieved before proposal of the applicable standard in most cases. However, the Act provides that a source achieving the reduction after a standard's proposal but before January 1, 1994, may qualify for the compliance extension if it makes an enforceable commitment (to achieve such reduction) before proposal of the standard.

The Act requires that the emission reduction be determined by comparing the post-control emissions with verifiable and actual emissions in a base year

not earlier than 1987, except that 1985 or 1986 may be used as a base year if the emission data are based on information received by the Administrator before November 15, 1990, pursuant to an information request issued under section 114 of the Act. To qualify for an extension, the reduction would be calculated by comparing total base year and post-control HAP emissions from all emission points in the source. The only limit to this overall reduction calculation is with respect to "high-risk pollutants." Section 112(i)(5)(E) of the Act states that, "With respect to pollutants for which high risks of adverse public health effects may be associated with exposure to small quantities including, but not limited to, chlorinated dioxins and furans, the Administrator shall by regulation limit the use of offsetting reductions in emissions of other hazardous air pollutants from the source as counting toward the 90 per centum reduction in such high-risk pollutants qualifying for an alternative emissions limitation under this paragraph." Section II.C. of this preamble includes a discussion of additional high-risk pollutants that are listed in today's proposed rule for which offsetting reductions of other HAPs would be limited.

Although the Act provides that a source may obtain a compliance extension and an alternative emission limitation upon demonstration of the 90 (95) percent reduction, there is a further provision in Section 112(i)(5)(A) that says, "Nothing in this paragraph shall preclude a State from requiring reductions in excess of those specified in this subparagraph as a condition of granting the extension..." In other words, a State may require that greater than a 90 (95) percent reduction of HAP emissions be achieved by the source in order to obtain a compliance extension. This topic is discussed further in Section I.C. of this preamble.

B. Advantages of Early Reduction Program

The purpose of the Section 112(i)(5) provision is to encourage early reductions in HAP emissions. It has the potential for substantial emission reductions well before the compliance date for MACT standards. Source owners and operators can realize benefits from participating in the early reduction program by obtaining more time to develop strategies for compliance with MACT standards in exchange for significantly reducing HAP emissions earlier than otherwise required and by being able to choose the means by which they reduce their HAP emissions. The early reduction option gives them an opportunity to design cost-effective emission reduction approaches for their facilities and reduce the cost of compliance over the long-term. In addition, participating companies will enjoy improved community relations when they become recognized as good corporate citizens that are concerned about improving the environment. Public and environmental exposure to HAP would be significantly reduced earlier than if sources delay control of emissions until they are subject to MACT standards. This early reduction results not only in lower annual emissions but also in lower overall emissions from the source over the long-term.

The potential long-term reduction of HAP emissions due to achieving early reductions can be illustrated in an example (see Table 1). Consider a source emitting HAP at a rate of 100 tons per year. Assume this source achieves a 90 percent reduction in HAP emissions, to a rate of 10 tons per year, just prior to proposal of an applicable MACT standard, and receives a six-year extension for compliance with the standard. In comparison, consider an identical 100 ton-per-year source which does not achieve early reductions but complies with a MACT standard three years after the standard is

promulgated, according to the compliance schedule for the standard (the Act provides that the standard specify the compliance date, not to exceed three years after promulgation of the standard). For purposes of this example, the standard is assumed to reduce HAP emissions from the source to two tons per year (98 percent reduction).

To estimate the additional HAP emissions decrease due to early reductions, a comparison can be made of cumulative HAP emissions under each scenario during the ten years starting from the time the early reductions are made to the time both sources are complying with the MACT standard (which is after expiration of the six-year extension). The ten-year period includes one year from proposal (the time the early reduction must be achieved) to promulgation of the standard, three years from promulgation to the assumed compliance date of the standard, and six years for the compliance extension. During the ten years, the source reducing emissions early emits 10 tons per year or a total of 100 tons. The other source emits 100 tons per year for four years (period before it complies with the standard) and two tons per year for the remaining six years, for a total of 412 tons. Thus, even when the standards are very stringent, the early reduction program can produce significant additional HAP reductions.

A source may achieve reductions after proposal of an applicable standard and still participate in the early reduction program, provided the source reduces emissions before January 1, 1994 and enters into an enforceable commitment to achieve these reductions before proposal of the standard. In such cases, reductions do not occur as far in advance of compliance with a standard as in the previous example, and the net reduction of HAP emissions would be less but still significant.

TABLE 1
EMISSIONS UNDER EARLY REDUCTIONS VS. MACT

TIME (Years)	MACT Scenario	Early Reduction Scenario
From Proposal to Promulgation (Year 1)	100	10
Year 2	100	10
Year 3	100	10
Year 4	100	10
Year 5	2	10
Year 6	2	10
Year 7	2	10
Year 8	2	10
Year 9	2	10
Year 10	2	10
TOTALS	412*	100*

Assumptions: 100 ton/yr source (uncontrolled); MACT achieves 98% control; MACT is effective 3 yrs after promulgation; 9 yrs after MACT promulgation MACT applies to source which received a compliance extension

* Discounting the implicit valuation of these emission totals at a 3 percent social discount rate leads to present values of 380 tons/year under the MACT scenario and 85 tons/year under the early reduction scenario.

The EPA is strongly committed to encouraging emission sources to voluntarily reduce emissions of air toxics, and the provisions of the rule being proposed today are intended to provide sufficient flexibility to encourage source owners and operators to participate in the early reduction program. In addition, because the Act includes certain requirements a participating source must meet, the proposed rule also contains provisions to

ensure that those requirements are met, as discussed in Section II of this preamble. The regulatory nature of the early reduction program distinguishes it from another EPA program, the 33/50 Project (Industrial Toxics Project), which also is designed to encourage voluntary reduction of toxics releases, not only into the air but other environmental media as well.

The 33/50 (Industrial Toxics) Project was announced in February 1991 and is one of the major components of the Agency's pollution prevention strategy. The project establishes a national goal to reduce releases and offsite transfers of 17 chemicals by one-third by 1992 and one-half by 1995 with emphasis on the use of pollution prevention techniques. The baseline for these reduction goals is the 1988 Toxics Release Inventory (TRI). The Administrator is asking companies who produce or use these chemicals to participate in this program by making voluntary commitments to reduce their releases to all environmental media. Progress in achieving these goals will be monitored through the use of information reported to the TRI.

The Agency intends to implement the 33/50 Project and the early reduction program in a coordinated manner to minimize confusion over their differing requirements and encourage participation. The early reduction program is being implemented by a rule defining procedures and requirements that must be followed to obtain a compliance extension. Any HAP emission reductions documented under the early reduction program also can be submitted and credited under the 33/50 Project. Reduction credits are not "used up" when applied to one of these programs. However, it is not necessarily the case that HAP reductions achieved and documented under the 33/50 Project will qualify a source for a compliance extension under the early reduction program. In general, the early reduction program documentation requirements are more

stringent and, of course, sufficient control must be employed to achieve at least a 90 (95) percent reduction from base year HAP emissions in order to qualify.

As with the 33/50 Project, the Agency encourages participation in the early reduction program through the adoption of pollution prevention measures. The Agency defines pollution prevention as the use of materials, processes, practices, or products that avoid, reduce or eliminate wastes or toxic releases, through activities such as toxic use reduction, source reduction and closed-loop recycling.

C. Coordination with States

EPA will administer the early reduction program until States have approved permit programs under Title V of the Act, and source owners or operators seeking compliance extensions will submit enforceable commitments and permit applications to the appropriate EPA Regional Office. EPA headquarters offices will be available to provide technical assistance and guidance to EPA Regional Offices and States in administering the early reduction program. After a State has an approved permit program, it will process and evaluate for approval the enforceable commitments and permit applications. The Agency solicits specific comment on whether it would improve the implementation of the early reduction program to delegate to the States review and acceptance of enforceable commitments prior to the approval of a State permit program under Title V of the Act, as would be authorized in the State Programs provisions of section 112(1) of the Act. If EPA were to approve such delegations, EPA would anticipate using the delegation procedures set forth in 40 CFR Part 61. EPA also solicits comment on whether such procedures would be appropriate for use in the early reduction program.

The involvement of State regulatory agencies, with or without approved permitting programs or delegated authority, will be very important to the success of the early reduction program. The proposed rule requires that source owners and operators send copies of enforceable commitments and permit applications to appropriate agencies in the States, and EPA will consult with State officials on applications that EPA processes. In addition, as the owner or operator attempts to comply with the requirements of the program at the Federal level, other procedures or requirements may apply to the source at the State level. For example, a source may be required to obtain State preconstruction and operating permits for any actions it undertakes under the early reduction program, or the source may have to meet separate control requirements imposed by existing State regulations for toxic air pollutants.

Thus, the States will be playing active roles, even at the outset, as sources reduce their HAP emissions to qualify for compliance extensions. Because of the potential for confusion or uncertainty to develop from differences in requirements for the early reduction program and existing State laws and regulations, EPA plans special coordination efforts to reduce these undesirable effects. The EPA will consult with the States to describe the features and advantages of the early reduction program and how EPA plans to administer the program prior to the States assuming administration responsibilities. In return, the States could share with EPA any conflicts or problems they envision, especially with regard to State air toxics regulations. The EPA Regional Offices also will consult with States regarding permit applications processed by EPA. The goal of these efforts is to foster EPA/State cooperation on the reduction of HAP emissions and ensure

that all involved parties understand the requirements and procedures for early reduction demonstrations.

D. Participation of Interested Parties

The development of the proposed rule was closely coordinated with representatives of industry, environmental groups, State and local air pollution control agencies, and other special interest groups. Options for the rule's major provisions were presented and discussed with these and other interested parties at a meeting of the National Air Pollution Control Techniques Advisory Committee on January 29, 1991, and at four "roundtable" discussions in January, February, and March 1991. The views and concerns of these groups and individuals have been very helpful to the Agency in its attempt to develop a rule that will carry out the requirements of the Act, encourage the greatest possible early reduction of emissions consistent with the legislation, and hold to a minimum the difficulties that are inherent in any regulatory program. Comments on all aspects of the proposed rule are encouraged.

E. Judicial Review

Issuance of the permit establishing an alternative emissions limitation for a source would be considered a final Agency action and, as such, would be considered judicially reviewable. However, acceptance of an enforceable commitment by EPA would not be a final Agency action and would, therefore, not be judicially reviewable.

II. SUMMARY OF AND RATIONALE FOR PROPOSED RULE

This section of the preamble includes discussion of the major provisions of the proposed rule, the rationale for the decisions that were made

concerning them, and other options that were considered in making those decisions.

A. Applicability

The proposed rule applies to any existing source that wishes to obtain a six-year compliance extension from an applicable MACT standard by achieving early HAP emission reductions. The compliance extension would be obtained and authorized in accordance with Section 112(i)(5) of the Act, as described in Section I.A. of this preamble. As sections 112(a)(4) and (a)(10) of the Act provide, an existing source is any source for which construction or reconstruction commenced prior to the date of proposal of an applicable standard. (See Section II.B. for further definition of "source".) Any source commencing construction or reconstruction after proposal of an applicable standard would be considered a new source and could not apply for a compliance extension. The proposed rule also applies to State or local air pollution control agencies reviewing applications for compliance extensions and issuing permits with alternative emission limitations in accordance with a permit program approved under Title V of the Act. The EPA Regional Offices will review applications and issue permits for sources located in States that do not have approved permit programs. Upon approval of their permit programs, States will assume the review and permitting activities.

B. Definition of Source

Section 112(i)(5)(A) of the Act specifies that the Administrator or a State with an approved permit program " . . . shall issue a permit allowing an existing source, for which the owner or operator demonstrates that the source has achieved a reduction of 90 per centum or more in emissions of hazardous air pollutants (95 per centum in the case of hazardous air

pollutants which are particulates) from the source, to meet an alternative emission limitation reflecting such reduction in lieu of an emission limitation promulgated under subsection (d) for a period of 6 years from the compliance date for the otherwise applicable standard, provided that such reduction is achieved before the otherwise applicable standard under subsection (d) is first proposed." (emphasis added). The "emission limitation promulgated under subsection (d)" refers to an applicable hazardous air pollutant standard issued under section 112(d) of the Act (MACT standard).

"Existing source" is defined in section 112(a)(10) as "any stationary source other than a new source." "Stationary source" is given the same meaning under section 112 as under section 111(a). CAA § 112 (a)(3). "Stationary source" under section 111(a) is defined as "any building, structure, facility, or installation which emits or may emit any air pollutant." "Major source" is defined as "any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit . . . 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants."

The language of section 112(i)(5)(A) proceeds from the assumption that one can identify the "source" to which "the otherwise applicable standard" would apply. If EPA has made a determination as to what will constitute a "source" for a particular MACT standard, then it is that source that must achieve the 90 (95) percent early reduction in order to obtain an extension from the MACT compliance date. However, with one exception noted below, at this time, EPA has not made any concrete determinations as to how it intends

to define source for purposes of establishing MACT standards under section 112(d). Therefore, at this time EPA cannot define precisely an "existing source" to which an otherwise applicable standard might apply for any particular source categories. EPA must define source for purposes of implementing the early reductions program.

At the outset, it must be noted that it is "[a] fundamental canon of statutory construction . . . that unless otherwise defined, words will be interpreted as taking their ordinary, contemporary meaning." Perrin v. U.S., 100 S.Ct. 311, 413 (1979) citing Burns v. Alcala, 420 U.S. 575, 580-81 (1975). Because the terms, "building, structure, facility, or installation are not further defined in the statute they would normally assume their ordinary meaning."

Under Chevron, USA, Inc. v. NRDC, 467 U.S. 837 (1984), however, EPA has very broad legal discretion to determine whether strict application of the ordinary meaning rule is adequate to achieve the policies underlying the statute. If, in the Agency's reasonable judgment an alternative explanation better advances the statutory policies, EPA may adopt a definition that broadens or narrows the natural meaning of the language. Specifically, the Supreme Court has recognized in Chevron that EPA has broad discretion to define "source." Indeed the Court recognized in Chevron that if any Congressional intent can be discerned from the statutory language of section 111(a)(3), "the listing of overlapping, illustrative terms was intended to enlarge, rather than to confine, the scope of the Agency's power to regulate particular sources in order to best effectuate the policies of the Act." Chevron 467 at 862 (1984). The use of the series of terms building, structure, facility, or installation is meant to convey an idea. Thus, a

"source" can encompass "any discrete, but integrated operation, which pollutes." Chevron, 467 U.S. at 861. It could also encompass an entire plant.

EPA recognizes that, depending on a particular MACT standard, "source" may be defined broadly or narrowly, from an individual emission point up to and including an entire plant. EPA's definition of "source" proposed here today for purposes of the early reductions program is consistent with the broad flexibility encompassed under section 111(a)(3) and is designed to further the underlying purposes of the early reductions program. The definition represents EPA's best efforts to balance the statutory policy to encourage maximum participation in the program with the statutory constraints imposed by the requirements that 90 percent reduction must be achieved from an existing "source."

As set forth in section 63.73, EPA is proposing a multi-part definition of "source" for purposes of the early reductions program as follows:

(a) For the purposes of the early reductions program under this subpart only, source is defined as follows:

(1) a building, structure, facility or installation identified as a source in Appendix B;

(2) the entire contiguous facility;

(3) any unit consisting of one or more emission points that can be characterized as a building, structure, facility, or installation;

(4) any combination of sources defined in paragraph (a)(3), provided that emission reductions from the aggregation of sources constitutes significant reductions of hazardous air pollutant emissions of the entire contiguous facility under common ownership or control;

(5) any individual emission point or combination of points, provided that emission reductions from such point or points constitutes a significant reduction of hazardous air pollutant emissions of the entire contiguous facility.

(b) For purposes of paragraphs (a)(4) and (a)(5) of this section, emission reductions from a source are considered significant if they are made from a hazardous air pollutant baseline of not less than (i) a total of 10 tons per year where the total base year emissions of hazardous air pollutants from the entire contiguous facility is greater than 25 tons per year or (ii) a total of 5 tons per year where the total base year emissions of hazardous air pollutants from the entire contiguous facility is 25 tons or less per year.

The scope of the definition is best illustrated by examples of "sources" that fall within this definition.

Under subparagraph (a)(1), EPA has, to date, only identified one type of emissions likely to be covered by a MACT standard. These are fugitive emissions sources from hazardous organic chemical facilities.

Fugitive emissions from equipment leaks covered in the Hazardous Organic NESHAP, or HON, to be proposed later this year have been identified with sufficient certainty to be considered separately. EPA has engaged in an extensive regulatory negotiation to establish MACT standards to be proposed for equipment leaks from HON facilities. See 56 FR 9315 (March 6, 1991). The negotiated regulation will apply to the collection of equipment (valve, pumps, connectors, etc.) within a process unit that either uses as a reactant or makes one of the organics listed as hazardous in section 112(b) of the Clean Air Act Amendments. For the purposes of the negotiated rule, the HON equipment leaks standard will cover all equipment from the feedstock storage tanks through end product disposition and wastewater treatment. The negotiating committee treated fugitive equipment leaks separately because they can occur throughout the plant wherever process equipment handles fluids and are not associated with any particular type of discrete emission point, e.g., storage or process vents. EPA recognizes that this coverage is for proposal purposes only. It may change as a result of the notice and comment process.

Nevertheless, for purposes of early reductions, the definition of source for these types of emissions will be based on the regulatory language in the March 6 notice. EPA notes that tentatively identifying equipment leaks as a source for early reductions is in no way meant to limit how "source" will be defined for the purposes of any particular MACT standard, including the HON equipment leak standard.

The second part of the definition, paragraph (a)(2) encompasses the entire contiguous facility. (See Figure 1.) Under paragraph (a)(2) of the definition, if an applicant designates the entire contiguous facility as the source and demonstrates sufficient reductions in total emissions of hazardous air pollutants from the contiguous facility, then the facility would receive a six year extension from any and all MACT standards applicable to the facility. A plantwide definition of source clearly falls with the definition of source under section 111(a)(3). See Chevron, supra, 467 U.S. at 861.

A "source" under paragraph (a)(3) may be defined to encompass less than an entire plant. However, only those units (building, structure, facility, or installation) identified as the source would be eligible for the six year MACT extension.

Under paragraph (a)(3), the applicant can identify a group of emission points that have a functional or geographical relationship to one another and characterize the collection of points as a facility or installation. For example, the applicant could identify a group of functionally similar points, such as all storage tanks identified in Figure 2, as a source and achieve qualifying reductions across that source. Alternatively, the applicant could identify all tanks in one of the four areas (A,B,C, or D) as a separate source because each of the 4 areas could be defined as a tank farm installation or

Figure 1
Chemical Plant Schematic
Entire facility

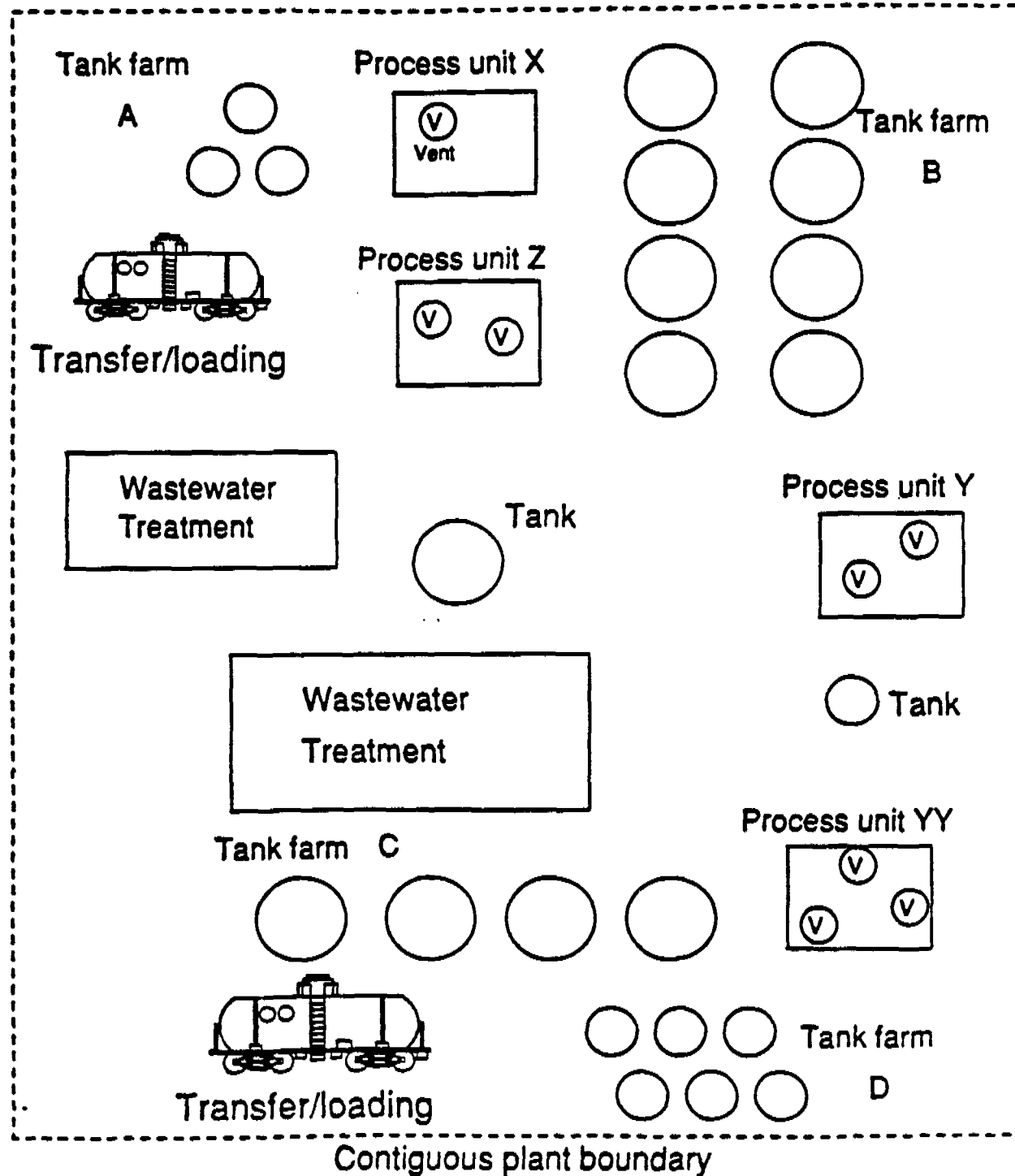
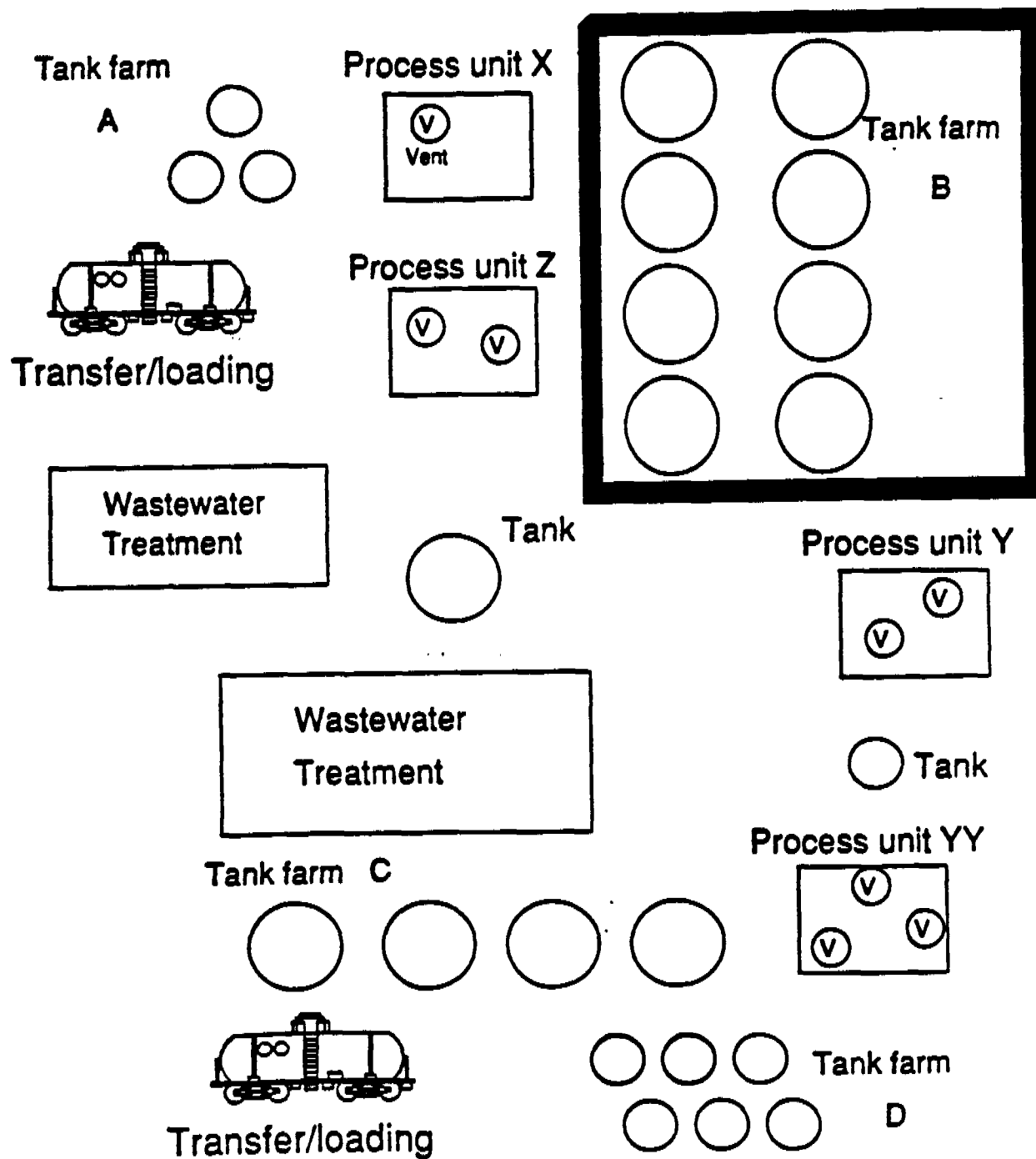


Figure 2
Chemical Plant Schematic
Functional and geographical

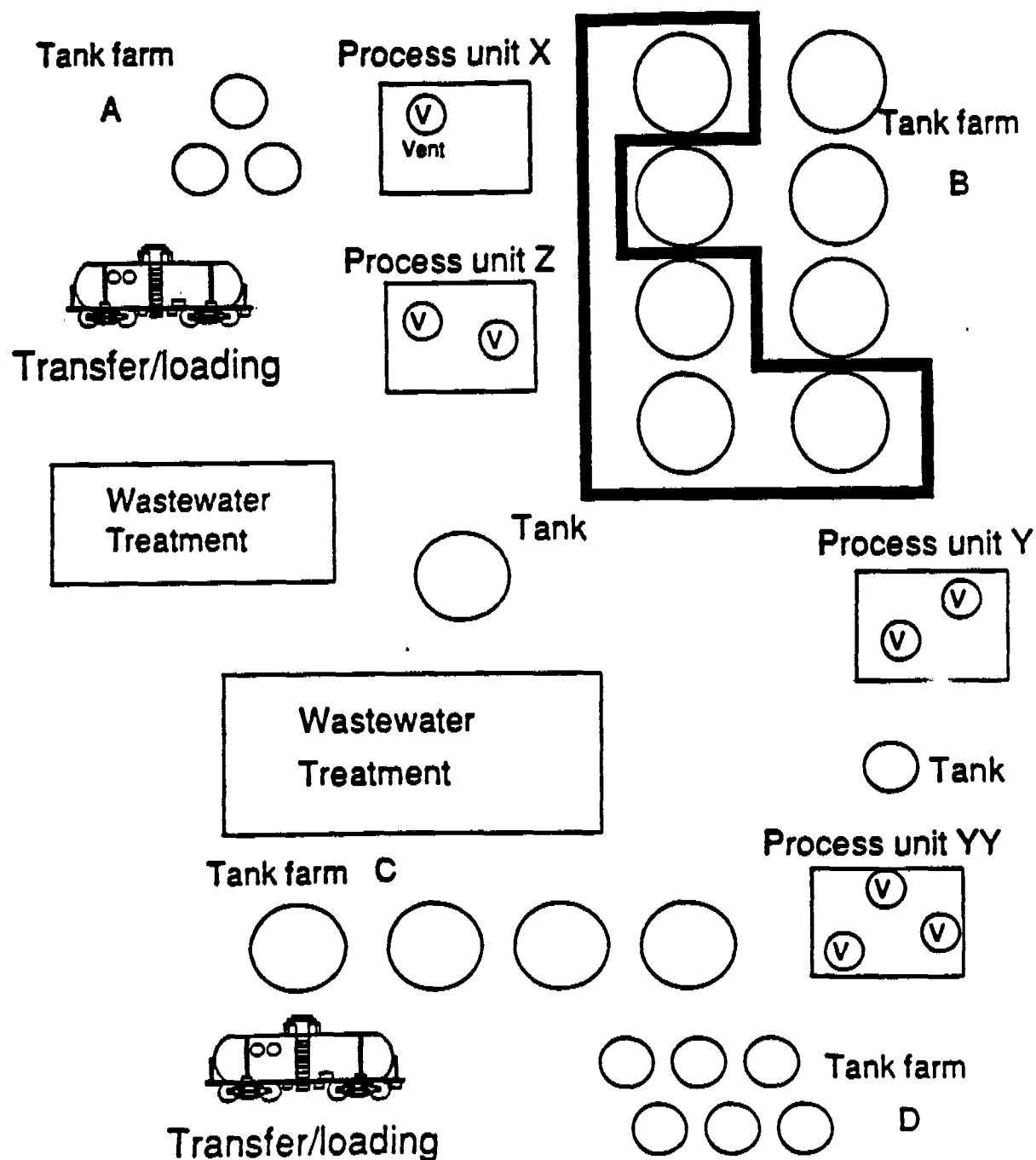


facility and therefore fall within the definition of source under paragraph (a)(3). Thus, the applicant could identify the tanks in area B as a source (a tank farm storing chemical X) and achieve sufficient aggregate reduction from the entire tank farm, even if one or more of the individual tanks did not achieve a 90 percent reduction. Moreover, the applicant could take one or more of the eight tanks in tank farm B out of service and credit that reduction towards the overall reduction demonstration provided the shutdown was permanent. Under paragraph (a)(3), however, the applicant could not identify the tank farm as the source and then subdivide the tank farm to exclude a portion of the tanks because they were already partially controlled. (Figure 3). [This configuration of a source may, however, be acceptable under paragraph (a)(4) or (a)(5).]

Generally, geographic grouping to form a source would only be allowed for emission points of the same type within a logical physical area, as in the examples above. It would not be acceptable to aggregate as a source based on a geographical relationship several unrelated tanks, process vents, wastewater units, etc., simply because they were all located on the same side of the road. Such a collection of points may, however, be acceptable under paragraph (a)(5). However, if a building or other enclosed structure houses a collection of emission points, such a source definition would be consistent with section 111(a)(3)'s definition of source as "any building, structure, facility, or installation."

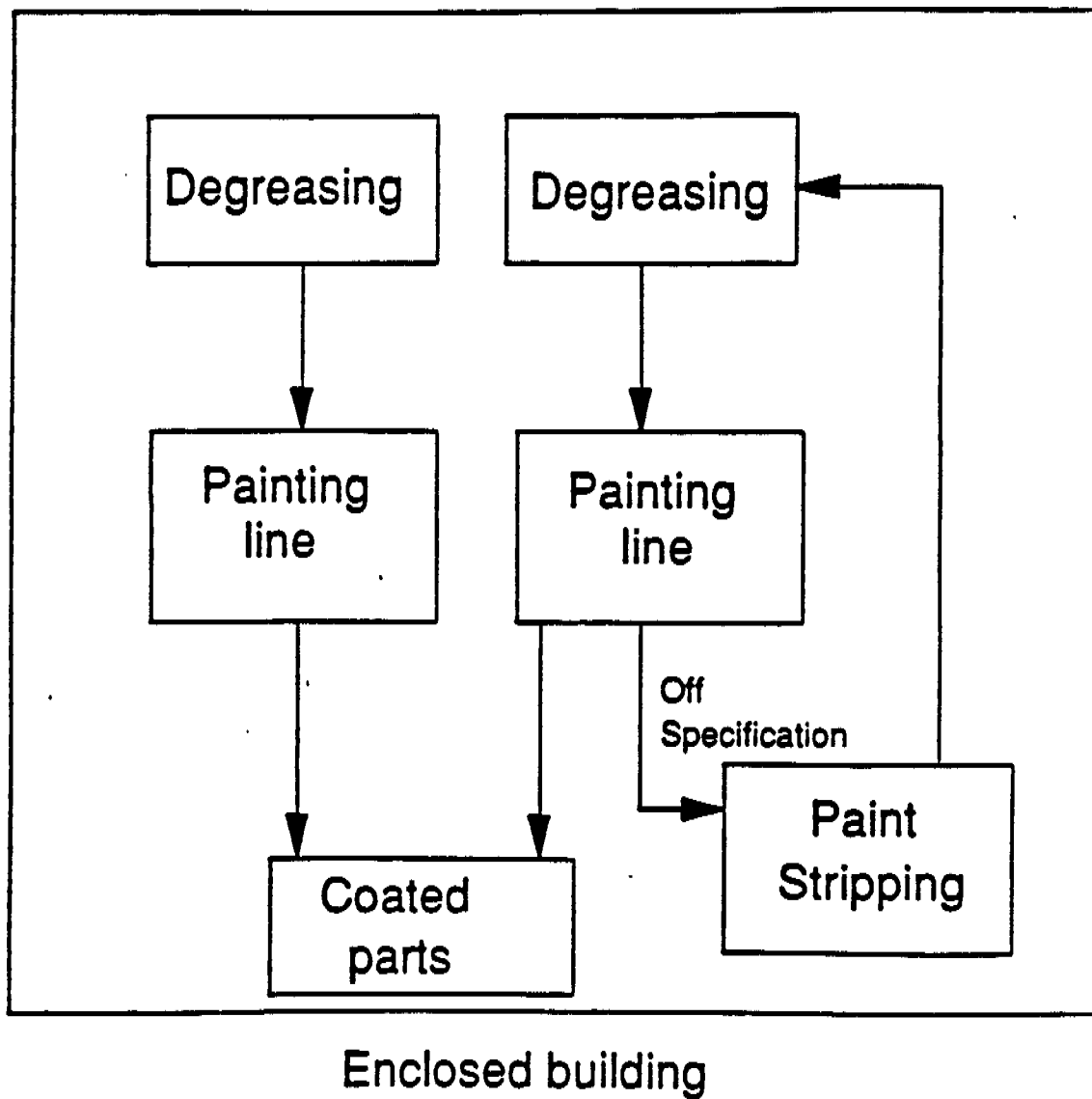
For example, a metal parts coating operation consisting of degreasers, painting lines, and paint strippers within a single enclosed structure could collectively be considered a source. See Figure 4.

Figure 3
Chemical Plant Schematic
Potentially Unacceptable Selective Grouping*



* Unacceptable if significance threshold specified in paragraph (b) of the source definition is not met.

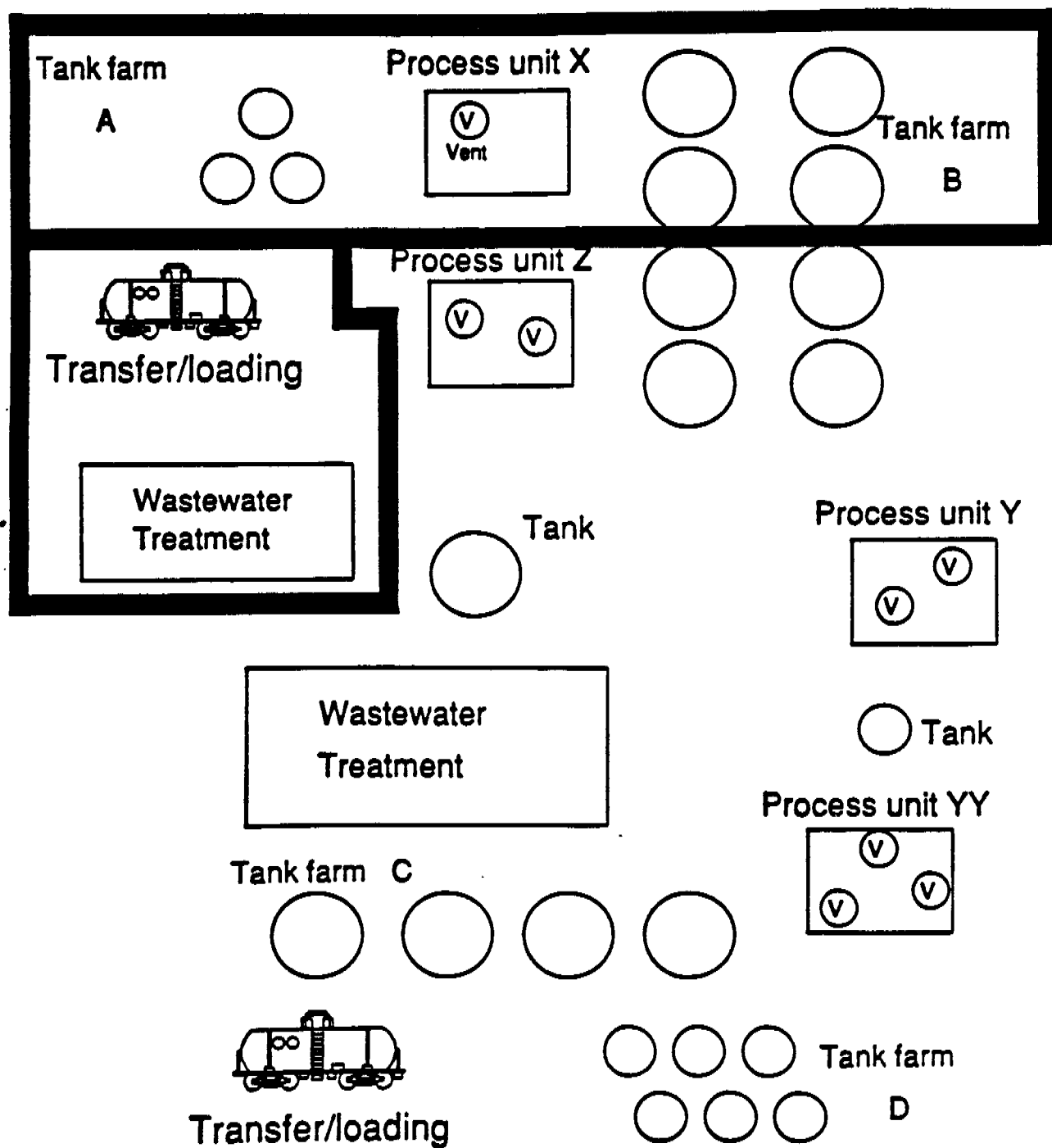
Figure 4
Metal Coating Operation



Under paragraph (a)(3), the applicant could also identify a process or production unit as a source, such as all equipment associated with the production of chemical X. An applicant, therefore, could identify as one "source" the outlined areas in Figure 5 which constitute a process unit and include all tanks in Area A, the vents on Production Unit X, and the tanks in Area B. In Figure 5, if the applicant defines the process units as the raw material storage tanks, the production process vents, the completed product tanks, and the wastewater treatment system, then the combined HAP emissions of all such process components must be reduced. If this source definition is used, a 90 (95) percent reduction of each component would not be required provided the aggregate overall reductions are sufficient to qualify for a compliance extension. In many instances, however, some components of the plant will be shared by multiple process units, e.g. a wastewater treatment system. For common or shared facilities which serve or are linked with multiple process units, the applicant could consider the common facility as part of a single process unit or treat it as a separate source. The applicant has fairly broad flexibility to identify those logical points that constitute a process unit or production train. However, the applicant must achieve sufficient overall reductions in HAP emissions from the entire process unit as defined.

Under subparagraph (a)(4), a "source" may also encompass any combination of units that can be characterized as a building, structure, facility, or installation under paragraph (a)(3) of the definition provided that the aggregate reduction from such combined units represents a significant reduction of the plant total emissions. EPA has determined that for the purposes of the early reduction program a significant reduction of emissions

Figure 5
Chemical Plant Schematic
Process train



of HAPs is a 90 (95) percent reduction from baseline emissions of at least 10 tons per year for plants emitting 25 tons per year or more during the baseline year, or a 90 (95) percent reduction from baseline emissions of at least 5 tons of HAPs for plants emitting less than 25 tons of HAPs during the baseline year.

Additionally, the conclusion that EPA may group together, or "bubble," sources without regard to whether each individual source is "functionally-related or geographically contiguous" to the others is suggested not only by the result in Chevron itself, but is also clearly implicit in the definition of "major source" in Sec. 112(a)(1). This definition of "major source" for purposes of the Title III air toxics program states that "any . . . group of stationary sources" may be considered as a single major "source," provided that they are "located within a contiguous area and under common control."¹ Thus, it follows that EPA may consider unrelated units that are under common ownership and control as a single "source" for purposes of the Early Reductions Program,² provided that the units all are under common control and

¹ . . . is not beyond the limits of legal ingenuity to argue that something can be a "major source" without being a "source." This tortured reading is implausible, however. To the extent that Congress thought about the issue at all after Chevron, the language of Sec. 112(a)(1) clearly suggests that Congress contemplated that a group of unrelated sources in a common area under common control could be considered a single source.

It is irrelevant for present purposes that in applying the limits for determining whether a source is "major," emissions from all of the collocated sources within common control must be considered. The important point for present purposes is that Congress clearly contemplated that a "group" of sources could be grouped together and considered as a single "source."

² This conclusion is limited to the context of the Early Reductions Program for several reasons. In particular, Congress specifically contemplated netting one hazardous pollutant against another for purposes of this program. Congress indicated in the legislative history that it wishes EPA to encourage participation in this program to obtain early reductions (see discussions below); and the statutory requirement for 90% reductions raises

are located "within a contiguous area," such as a common plant-site. The individual sources to be aggregated such as pieces of equipment, process units, tanks or buildings do not have to be located next to one another or to be functionally-related in order to be "bubbled," provided that they are all located within the same geographic area which is under common control, such as a plant-site. The conclusion that bubbling between unrelated process units is permissible for purposes of the early reduction program is confirmed not only by the statutory language and case law discussed above, but also by the statutory policies and legislative history of the early reduction program. In Sec. 112(i)(5)(e), Congress authorized a form of emissions trading -- offsetting early reductions of one hazardous air pollutant against reductions of other hazardous air pollutants for purposes of the early reduction program. "Bubbling" units is merely another form of emissions trading.³

Moreover, the legislative history indicates that Congress wanted EPA to encourage participation in the program. See H.R. Rep. No. 101-490, 101st Cong., 2d Sess. 332 (May 17, 1990) ("In the administration of this provision EPA thus should strive to encourage companies to take advantage of this incentive to reduce emissions early.") In addition, the significance threshold is designed to ensure that real substantial reductions are achieved and that the program is not trivialized. The flexibility afforded through aggregating process units or equipment units offers greater incentive to participate in the early reduction program. Greater overall participation in the program combined with a minimum threshold for early reductions achieved

quite different factual and policy questions than might be applicable elsewhere.

³ The only exception is for a separate category of high risk pollutants, such as dioxins and furans, which are to be treated differently.

under the program will help ensure that the reductions achieved under the program are both real and substantial and the concomitant environmental benefits maximized and that the possibility for "gaming" the system is minimized.

Finally, the definition of source in this proposal includes, in paragraph (a)(5), any individual emission point or combination of such points within a contiguous facility under common ownership or control provided that such points meet the same significance threshold that is required under (a)(4). As with the bubbling of sources under paragraph (a)(4), EPA believes this definition will encourage greater overall participation in the program to the overall benefit of the environment. The significance threshold requirement for this portion of the definition will likewise serve to prevent trivializing the early reduction program.

These foregoing examples of the definition of source are meant to be illustrative only to demonstrate the types of groupings that may reasonably fall within the proposed definition of source for purposes of the early reduction program. Obviously, each plant is configured differently and it is impossible to contemplate all the combinations of emission points or units that may be unique to a particular contiguous facility. However, because EPA has not yet defined "source" for purposes of establishing MACT standards, the test for the definition of source under the early reduction program must be whether the application includes identifiable "sources" as that term is defined. EPA's proposed definition is an attempt to recognize the breadth of that flexibility.

The proposed definition provides the maximum benefit to an applicant who is capable of making reductions in various parts of its plant, and is trying

to make reductions without actual knowledge as to how EPA will define various components of his plant as "sources" for purposes of particular MACT standards. Each source identified would receive extensions from the MACT standards applicable to it. If a plant owner or operator chose to reduce plantwide emissions sufficiently, the plant would receive an extension on all MACT standards applicable to it.

EPA's definition attempts to balance two competing concerns expressed during the public roundtable discussion. First, some asserted that some early reduction projects would not be undertaken unless broad flexibility was provided to combine independent but discrete points. In contrast, others wanted the definition to stimulate future projects to be undertaken and not allow random groupings that could allow reductions already achieved to shield other emissions from MACT coverage for six years. For example, the shutdown of a 100 ton unit could allow another 10 tons of emissions to avoid MACT for six years. Those taking this position considered this a "loss" in environmental terms.

After carefully considering these concerns, EPA has decided that in the particular circumstances of this rule, the proposed "source" definition serves the emission-reducing purpose of section 112(i)(5). EPA believes it must balance the environmental gains from inducing early reduction projects that otherwise would not have occurred against the emissions reduction "losses" from MACT compliance extensions associated with projects that would have occurred anyway.

EPA has concluded that "gains" are likely to outweigh "losses" because of the emission reduction requirement for a 90 percent reduction from baseline emission levels. Each project which in fact is induced by the proposed source

definition will bring a "gain" of a 90 percent reduction from the baseline emissions level. In contrast, each project that would have occurred anyway will cause a "loss" of 10 percent of the baseline emissions level. Assuming projects of equal size, "loss" projects would have to outnumber "gain" projects by 10-to-1 before the proposed source definition would result in overall emissions.

The legislative history of the early reductions provision provides a clear indication that the purpose of the provisions was to provide an incentive to achieve early reductions. The Bill reported out by the House Energy and Commerce Committee was almost identical to the final Act with respect to the early reduction requirements. The Report accompanying that Bill stated that the purpose of the provision was to encourage early reductions, adding that:

Owners and operators should have an incentive to use this option because it allows them greater flexibility to choose the means by which they will reduce their air toxics emissions and to make those reductions without waiting for prescribed standards and regulatory schedules. Clearly, early reductions achieved before emission controls are required by MACT will benefit the environment and communities near the facilities that make early reductions. In the administration of this provision EPA thus should strive to encourage companies to take advantage of this incentive to reduce emissions early.

Committee on Energy and Commerce, U.S. House of Representatives, Report No. 101-490, at 332 (May 17, 1990).

Thus, the House Committee expressed a clear intent that the provision be utilized to encourage early emission reductions.

The legislative history on the scope of the definition of "source" for purposes of section 112 also sheds some light on Congress' intent. While the Conference Report does not address the source definition issue, there are statements by Senator Durenberger submitted for the record which speak to the

issue. Senator Durenberger was one of the managers of the bill in the Senate and the principle author of Title III of the CAAA of 1990.

Conference report statements are typically considered to be the most reliable historical aids to statutory interpretations. See, e.g., United States v. UAW, 352 U.S. 567, 585 -586 (1966). Statements of sponsors are not controlling legislative history but they are entitled to some consideration. See Brock v. Pierce County, 476 U.S. 253, 263 (1986) ("statements by individual legislators should not be given controlling effect, but when they are consistent with the statutory language, and other legislative history, they provide evidence of Congress' intent"). Moreover, several members cautioned about the use of statements of individual members on various provisions of the 1990 Amendments. See, e.g., 126 Cong. Rec. E 3714 (November 2, 1990) (Cong. Dingell) (only the statement of managers, which is part of the conference report reflects the views of all the managers or conferees in the House and Senate); (Cong. Waxman) (accurate legislative history is not necessarily reflected in the commentary of individual members) 126 CONG. REC. E 3699 (November 2, 1990). These statements are consistent with customary use of legislative history, i.e. that one resorts to the legislative history in the first instance only where the plain language of the statute is not clear and that statements in conference reports agreed upon by all managers should be given higher precedence than individual statements by members.

A short time before final passage of the Bill by the Senate, Senator Durenberger made a number of specific statements about the early reductions provisions. The Senator reviewed a draft EPA paper concerning the definition of source and concluded that "creditable reductions must come from the same part of a plant site that is covered by the applicable MACT standard. . . .

The owner cannot claim credit for reductions made at another part of the plant." 126 CONG. REC. S.16928 (daily ed. October 27, 1990). Senator Durenberger's floor statement indicates that his interpretation of the source definition with respect to early reductions would require reductions to be demonstrated by individual MACT units. His statement also recognizes that what constitutes the "source" may vary from standard to standard and may range from a discrete portion of an entire contiguous facility to an entire facility. 126 CONG REC. S.16927, (3rd col.) (daily ed. October 27, 1990) (agreeing with EPA paper that a MACT standard may focus on a specific portion of a facility or may encompass the entire contiguous facility).

EPA believes that the definition of source proposed in section 63.73 is consistent with Senator Durenberger's statements. The Senator's statements start from the presumption that EPA has already identified the "source" to be regulated by a MACT standard. However, at the time many companies will undertake to make early reductions, EPA will not have determined what the "source" will be for purposes of the MACT standard. If EPA has not identified the "source" for purposes of MACT, it is impossible for an owner or operator to determine what portions of its plant it should control in order to receive a six year extension from MACT. Therefore, if EPA has not defined "source" as it may apply to any particular units within an entire contiguous facility, the owner or operator can achieve an overall qualifying reduction from the entire major source or it can choose any portions of the facility that meet the regulatory definition of source set forth in § 63.73.

This broad definition affords the plant owner or operator flexibility to participate in the early reductions program to the maximum extent possible and is consistent with the intent of the program as reflected in the House report

cited above. Reading Senator Durenberger's statement as precluding such a definition ignores the fact that his statement proceeded from the assumption that the MACT source was identified at the time a source must commit to make (or actually make) the early reduction. As noted, this will often not be the case. Moreover, such a narrow reading of the provision would limit participation in the program to those situations where EPA has already sufficiently progressed in the development of the MACT standard to have an idea of what unit(s) at a plant will constitute a "source" for that particular MACT standard. Congress could not have meant to so restrict the early reductions program. Indeed, EPA believes the broad definition will encourage significant participation in the program. At the same time, the minimum threshold of reductions for applicants seeking to aggregate dissimilar process units (or other "sources") reflects EPA's policy to ensure significant reductions and not to trivialize the program so as to frustrate the purposes of the Act.

EPA's definition of "source" in this rule is an effort to "represent a reasonable accommodation of manifestly competing interests" in a manner it believes to effectuate the underlying policies of the Act. EPA believes the proposed definition of "source" is within the bounds of the Agency's discretion in light of the language of the statute, the underlying purposes of the early reductions provision, and the legislative history on the definition of source. See Memorandum from E. Donald Elliott, Assistant Administrator and General Counsel to William G. Rosenberg, Assistant Administrator for Air and Radiation, "Legal Opinion on the Definition of "Source" for Early Reductions Program (Clean Air Act Section 112(i)(5))." (May 9, 1991). Moreover, EPA believes that the proposed definition will provide owners and operators

sufficient flexibility to encourage significant participation in the early reductions program to the overall benefit of the environment.

C. Demonstration of Early Reduction

1. General. Because there are many differences in sources, types of HAPs, procedures for establishing emission data, and emission control measures, it is neither possible nor desirable to prescribe by regulation a uniform manner in which the required emission reduction must be demonstrated. Each situation will be unique in some way. Thus, the proposed rule provides a framework of general rules that allow differing methods and procedures for demonstrating emission reduction achievement. However, owners or operators may find that this flexibility leads to uncertainty whether particular procedures for establishing emissions will be acceptable for demonstrating the emission reduction. To assist owners and operators, EPA will publish acceptable methods for documenting emissions for source categories that will be subject to MACT standards. The document will indicate the appropriate EPA reference method or conditional method that should be used for source testing emission points from the subject source, but the primary focus will be on how to establish emissions using an alternative method when source tests are not feasible. The document does not preclude a source owner or operator from establishing emissions using other methods or procedures that are appropriately documented. A notice announcing the availability of this document for the several categories in the first group (those for which standards will be proposed in the 1991-1993 time frame) will be published in a subsequent FEDERAL REGISTER notice.

The time period in which the early reduction may be demonstrated is limited by Section 112(i) of the Act. In most cases, calendar year 1987 is

the earliest year that can be used to calculate base year, or pre-control, emissions (see discussion of base year emissions below). The reduction must be achieved prior to proposal of an applicable MACT standard, with one exception. If the reduction is achieved after proposal of the standard, the source may still qualify for a compliance extension and alternative emission limitation if two conditions are met: (1) before proposal of the standard, the source owner or operator makes an enforceable commitment (discussed in Section II.D. of this preamble) to achieve the reduction, and (2) the reduction is achieved before January 1, 1994.

As a first step in an early reduction demonstration, an owner or operator must describe the source and how it conforms to one of the allowable source definition options. If the source will consist of an aggregation of equipment from the contiguous facility as allowed under §63.73(a)(4) or (5) of the proposed rule, an owner or operator also must show that total base year emissions from the source are significant (i.e., 10 tons per year, except that 5 tons per year is considered significant in cases where the entire contiguous facility containing the source emits 25 tons per year or less).

To demonstrate that qualifying emission reductions have been achieved at the source, the owner or operator must sum the estimated emissions of all HAPs listed in section 112(b) of the Act that are emitted by the emission points in the source in the base year and compare the total with a similar sum for emissions following implementation of reduction measures. The post-control emissions sum must be ten percent or less of the sum for base year emissions, reflecting a 90 percent reduction as required to qualify for a compliance extension (five percent or less for hazardous air pollutants which are particulates, reflecting a 95 percent reduction). Thus, for a source

containing more than one emission point, an owner or operator may control some emission points by less than 90 (95) percent and others by more than 90 (95) percent as long as total base year emissions from the source are reduced by 90 (95) percent. If the source emits any high-risk pollutants, the owner or operator must make a similar but separate reduction demonstration to document sufficient control of such high-risk pollutants. High-risk pollutants and the separate reduction demonstration required are discussed in more detail in sections II.C.2 and II.C.3 of this preamble, respectively.

Some sources may emit gaseous and particulate HAPs, possibly from the same emission point (e.g., a paint spray booth may emit particulate matter and gases, both types of emissions could contain HAPs). To demonstrate qualifying reductions from such sources, an owner or operator could show separate 90 percent and 95 percent reductions for the gaseous and particulate HAP, respectively. Alternatively, the proposed rule contains a provision [§63.74(g)] that would allow an owner or operator of such sources to qualify for an extension by combining the gaseous and particulate HAP emissions from the source and demonstrating achieving a combined percent reduction between 90 and 95. Determination of the new "target" percent reduction needed to qualify in this manner is made according to the equation in §63.74(h) of the proposed rule and is based on the proportional amounts of gaseous and particulate HAPs emitted. For example, if a source emits equal amounts of gaseous and particulate HAPs, then the combined percent reduction necessary to qualify in this manner is halfway between 90 and 95, or 92.5 percent. The combined percent reduction demonstration for "mixed" sources of HAPs would provide additional emission control flexibility for the owner or operator and lead to increased participation in the early reduction program without changing the

total amount of HAP emission reduction required to qualify for an extension, compared to separate 90 and 95 percent demonstrations for "mixed" sources. EPA specifically requests comments on this proposed approach for handling sources emitting gaseous and particulate HAPs.

To demonstrate achieving the HAP emission reduction required to qualify for an extension, source owners and operators may take credit for emission reductions achieved for any reason. All emission reductions since the base year are allowable for meeting the early reduction goal. The early reduction provisions in the Act and in the proposed rule do not distinguish between reductions achieved voluntarily and those that result from other regulatory requirements, including emission standards promulgated under section 112 prior to the Clean Air Act Amendments of 1990.

Emission reductions resulting from shutdown or curtailment of production also can be credited, provided that they are "permanent", i.e., for the duration of the 6-year MACT extension period. If a process or piece of equipment within a source is shut down and another process or piece of equipment replaces it, any HAP emissions from the replacement unit must be counted in the demonstration of post-control emissions for the source. Additionally, if an owner or operator takes emission reduction credit for a shutdown in an early reduction demonstration and is granted a compliance extension but later wishes to restart the shutdown unit or startup a replacement unit (before the compliance extension expires), the owner or operator is obligated to maintain 90 (95) percent reduction of HAPs at the source and would have to make compensating additional reductions in HAPs to offset any HAP emissions added to the source from the restarted or replacement unit. Similarly, if emission reduction credit has been taken for reduced

production or hours of operation, any subsequent plans to increase production at the source prior to the expiration of a compliance extension period would require compensating HAP reductions at the source to maintain the 90 (95) percent reduction. If compensating reductions are not made, the source will lose the compliance extension.

2. High-Risk Pollutants. Section 112(i)(5)(E) specifies that the Administrator shall limit the use of offsetting reductions in emissions of other hazardous air pollutants from the source as counting toward the 90 percent reduction in such high-risk pollutants qualifying for an alternative emissions limitation. This Section also identifies chlorinated dioxins and furans as two pollutants to which such limitations must apply. The proposed regulation identifies 33 other pollutants to which such limitations shall apply.

In defining limitation for the purposes of this Section, the EPA first considered prohibiting the offsetting of high-risk pollutants with other listed hazardous air pollutants. There is, however, a potential implementation difficulty with this approach. Several of the high-risk pollutants such as arsenic compounds, chromium compounds and dioxin can be emitted in trace amounts as an incidental by-product of industrial processes and fuel combustion. Achieving reductions of 90 percent or more in these trace amounts can be extremely difficult or technically infeasible. In such circumstances, strict adherence to the requirement to achieve a 90 or 95 percent reduction of any high-risk pollutant could preclude participation by some applicants. Such an outcome does not seem consistent with the intent of encouraging participation in the early reduction program.

Instead, the EPA has interpreted this limitation to allow offsets of higher risk pollutants with lower risk (less toxic) pollutants based on the relative toxicity of the pollutants involved, provided that the overall requirement of 90 percent reduction in HAP emissions from the source is achieved. Where a measure of relative toxicity has been established, the proposed regulation provides for the greater reductions of lower risk pollutant emissions to offset emissions of higher risk pollutants. Where a measure of relative toxicity has not been established, as with noncarcinogens, EPA has established an interim policy which allows the offsetting of noncarcinogens based on the weighting factors assigned to the carcinogens in comparable groups.

The indexed offsetting system is based on estimates of the carcinogenic potency of the carcinogens on the HAP list. The EPA has concluded that comparable measures of relative toxicity for the listed noncarcinogens are not currently available, but has employed the carcinogen indexing system to obtain rough weightings for the high risk noncarcinogens. As more appropriate indices become available, EPA will amend the proposed system to include them.

Table 2 lists the 35 pollutants on the proposed high risk list along with their assigned relative weights. Section II.G. of this preamble describes the criteria and methods used to select the pollutants.

Table 2
List of High Risk Pollutants

<u>Carcinogens</u>	<u>Weighting Factor*</u>
2,3,7,8-Tetrachlorodibenzo-p-dioxin	100,000
Benzidene	1,000
Bis(chloromethyl)ether	1,000
Asbestos	100
Chromium Compounds	100
Hydrazine	100
Arsenic Compounds (inorganic including arsine)	100
Chloromethyl Methyl Ether	10
Cadmium Compounds	10
Heptachlor	10
Beryllium Compounds	10
Acrylamide	10
Coke Oven Emissions	10
Hexachlorobenzene	10
Chlordane	10
Dichloroethyl ether (Bis(2-chloroethyl)ether)	10
1,3-Butadiene	10
Benzotrichloride	10
Ethylene dibromide (Dibromoethane)	10
Ethylene oxide	10
Vinyl chloride	10
Acrylonitrile	10
1,1,2,2-Tetrachloroethane	10
Vinylidene chloride (1,1-Dichloroethylene)	10
Benzene	10
1,2-Propylenimine (2-Methyl aziridine)	10
<u>Noncarcinogens</u>	
2,4-Toluene diisocyanate	10
Acrolein	10
Acrylic acid	10
Chloroprene	10
Dibenzofurans	10
Mercury Compounds	10
Methyl isocyanate	10
Methylene diphenyl diisocyanate (MDI)	10
Phosgene	10

*HAP not on the high risk list have a weighting factor of 1

The proposed high-risk list includes 26 carcinogens and nine noncarcinogens. Carcinogens are defined as those hazardous air pollutants with EPA weight of evidence classifications of A, B, or C and approved unit risk estimates (cancer potency factors). All other hazardous air pollutants are considered noncarcinogens for the purposes of this proposed regulation.

The methods used to formulate the list of high-risk pollutants, the list itself, and weighted offsetting scheme described in the following paragraphs are a direct response to the mandate in section 112(i)(5)(E) of the Act. This is warranted in the Early Reduction Program because of the flexibility allowed participants of the definition of source and method of reduction. It will also encourage participation in the program while ensuring that high risk pollutants are addressed. This list and the weighted offsetting scheme may not be applicable to or appropriate for programs designed to implement other sections in Title III of the Act, that do not contain such flexibility or explicitly require the Administrator to limit offsetting among chemicals.

a. Weighted index for carcinogens. The list of hazardous air pollutants contains approximately 60 carcinogens with EPA-approved potency factors, 26 of which have been selected as high-risk pollutants. To establish the weighting factors, carcinogens on the high-risk list were ranked according to carcinogenic potency. The seven substances with the highest carcinogenic potency (2,3,7,8-tetrachlorodibenzo-p-dioxin, benzidene, bis(chloromethyl)ether, chromium compounds, asbestos, hydrazine, and arsenic compounds) were determined to warrant individual weighting factors based on the high relative toxicity of these compounds. Weighting for the remaining 19 carcinogens on the high-risk list was based on the geometric mean potency for this group. The geometric mean was chosen to represent this group since there

was not as great a variation in potency, compared to the highest eight carcinogens. The use of a consistent factor for these pollutants also simplifies the index for trades among carcinogens. A mean potency value was also obtained for the remaining carcinogens not on the high-risk list. The weighting factors shown in Table 2 represent the ratio of individual or mean factors to the mean value for the carcinogens not on the high-risk list, rounded to the nearest order of magnitude. The resulting factors provide a relative index of carcinogenicity, normalized to 1 for the non-high-risk carcinogens.

The weighting factors specify the equivalent offsets for trading among the listed carcinogens. For example, a source emitting one ton of hydrazine, with a weighting factor of 100, that wishes to participate in the early reduction program is unable to achieve a full 90 percent reduction in hydrazine emissions. Under the proposed system, the source has the option of offsetting this shortfall by achieving greater than necessary reductions of another HAP. If the actual hydrazine reduction was 0.8 tons (80 percent) and the source also emitted 40 tons of benzene, the hydrazine shortfall of 0.1 ton (the difference between the actual reduction and 90 percent) could be offset by reductions in benzene of $0.1 \text{ ton} \times 100/10$ (the ratio of the weighting factors for hydrazine and benzene) or 1.0 tons. It would take 10 tons of additional reductions of a HAP with a weighting factor of 1 to offset the 0.1 ton shortfall in hydrazine reductions. (See section II.C.3 of this preamble for a more detailed explanation of demonstrating qualifying early reductions when high-risk pollutants are involved.)

For the purposes of offsetting, pollutants with verified carcinogenic potency factors which also exhibit other toxic effects will be treated as

carcinogens. Carcinogens without approved potency factors will be treated as noncarcinogens.

b. Offsetting of noncarcinogens on the high-risk list. In the absence of a comparable measure of relative toxicity, EPA has made an interim policy decision that offsetting reductions of noncarcinogens on the high-risk list (Table 2) will be keyed to the weighting of the carcinogens on this list. For the purposes of offsetting, the high-risk noncarcinogens are assumed to have a weighting factor of 10. Other noncarcinogens and carcinogens not on the high-risk list have a weight of 1 for the purposes of offsetting. As more appropriate indices become available for these pollutants, EPA will amend the proposed weighting system to include them.

The EPA requests comments on the methods used to select the high-risk pollutants, described in Section II.G. of this preamble, and on the above description of indexed offsetting for the purposes of implementing the early reduction program. The EPA in particular solicits comments on whether this approach represents the best method for addressing those situations in which a source emits trace emissions of a high-risk pollutant, and on the impact of the high-risk pollutant list and offsetting system on the cost of participating in the program and potential emissions reductions.

3. Reduction Demonstration Procedures. To qualify for a compliance extension under the early reduction program, an owner or operator must demonstrate having achieved sufficient reductions (i.e., 90 percent, 95 percent, or a combined percentage between 90 and 95, as applicable) in (1) overall HAP emissions from the source and (2) high-risk pollutants from the source, if any are emitted.

To make the first demonstration, an owner or operator would calculate total base year emissions from the source by summing documented base year emission data accounting for all HAP emissions from each point in the source. Similarly, total post-control emissions would be calculated by summing documented emission data accounting for all post-control HAP emissions from the source. These two totals would be compared to show that the required overall reduction had been achieved.

If high-risk pollutants are emitted from the source, a second reduction demonstration is required. The second demonstration is similar to the first, but incorporates the high-risk pollutant weighting factors. Once again base year emissions are compared to post-control emissions. However, in this case before total base year or post-control emissions are calculated by summing emission data accounting for all emission points in the source, the owner or operator must multiply each individual emission number by the weighting factor associated with the pollutant emitted.

As a simple example, consider a reduction demonstration for a source emitting benzene and toluene. Assume benzene emissions are 20 tons in the base year and 3 tons per year after control, while toluene emissions are 200 tons in the base year and 18 tons following control. For the first demonstration, total base year emissions are $20 + 200 = 220$ tons per year and total post-control emissions are $3 + 18 = 21$ tons per year, which gives an overall HAP reduction of 90.5 percent. To make the second demonstration, the weighting factors are used before summing. According to Table 2, the weighting factors are 10 for benzene and 1 for toluene (any HAPs not on the high-risk list have a weighting factor of 1), and individual base year emissions adjusted for weighting factors are $20 \times 10 = 200$ tons for benzene

and $200 \times 1 = 200$ tons for toluene. Total base year emissions adjusted for weighting factors are $200 + 200 = 400$ tons per year. Similarly, total post-control emissions adjusted for weighting factors are $3 \times 10 + 18 \times 1 = 48$ tons per year. Emission reduction considering high-risk pollutant weighting factors is 88 percent. Thus, in this example the source has demonstrated achieving a reduction in overall HAP emissions of 90.5 percent, but a reduction of only 88 percent when considering high risk pollutant weighting factors. To make up for the shortfall and qualify for a compliance extension, additional reductions of benzene or toluene would have to be made at the source (e.g., an additional toluene reduction of 8 tons per year would qualify the source by increasing the HAP reduction adjusted for weighting factors to 90 percent).

4. Base Year and Post-Control Emissions. There are a number of requirements for establishing base year and post-control emissions for a source. Emission data must be in the format of an annual emission rate (e.g., megagrams per year). The base year emission rate must represent actual and verifiable emissions for calendar year 1987 or later. However, emission rates for 1985 or 1986 may be acceptable if they are verifiable, based on data submitted to the Administrator pursuant to an information request issued under Section 114 of the Act, and received by the Administrator prior to November 15, 1990. The base year must also be one in which emissions were not artificially or substantially greater than emissions in other years before the emission reduction measures were implemented. This means that the base year emissions should reflect a period of time in which production rates, operating hours, and other operating parameters were within normal conditions for the source. The owner or operator must provide information to demonstrate that all these

conditions have been met. Emissions in excess of emission limits imposed by an applicable air pollution control law, regulation, or permit condition cannot be used as base year emission data. These requirements would ensure that the post-control emissions are compared to normal, typical, and lawful base-year emissions.

The proposed rule prohibits the use of EPA average emission factors for estimating base year equipment leak emissions. Use of these factors may produce significant overestimates of base year emissions in many cases. However, source owners or operators could establish base year estimates for equipment leaks specific to their sources consistent with other equipment leak emission estimating protocols already established by EPA in the document entitled "Protocols for Generating Unit-Specific Emission Estimates for Equipment Leaks of VOC and VHAP," EPA-450/3-88-010, October, 1988. These protocols allow the use of "leak/no leak" factors or "stratified" emission factors, which better approximate an individual source's actual emissions, as well as actual bagging data to establish source-specific emission factors. The source must have screening data on each component proposed to be covered within the source definition, with the exception of flanges and other connectors (a special formula is used to determine the appropriate number of these), to which the appropriate emission factors are applied to determine total equipment leak emissions. Also, a source owner or operator may propose an alternative estimating method to account for equipment leak emissions from the source. Such methods would be reviewed and approved or denied on a case-by-case basis.

To demonstrate the post-control emission rate, the source owner or operator would need to present verifiable and actual emission data for a year

after 1987 (or 1985 or 1986, if allowed) and prior to the dates required for demonstration of the reduction, as discussed earlier. For both base year and post-control emissions, the presumption is that verifiable and actual data will consist of source test results using validated methods. A validated method is a measurement methodology with a demonstrated precision and bias over the measured concentration of the source's emissions. A validated method may be an EPA Reference Method, conditional method, or a test method validated according to the protocol in Method 301. Because EPA does not have reference or conditional methods for all of the 189 compounds listed in the 1990 amendments, the Agency is proposing Method 301, a process for the validation of test methods developed by sources who wish to make early reduction demonstrations. Method 301, "The Field Validation of Emission Concentrations from Stationary Sources," is being proposed today in Appendix A to 40 CFR Part 63. A list of validated methods may be obtained from the Emission Measurement Technical Information Center (MD-19), U. S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711. There may be cases, however, in which emission data may be established through methods other than source tests. Specifically, other methods may be used due to: (1) lack of a test method; (2) the economic or technical infeasibility of testing; (3) the demonstration that emission data based on engineering principles, emission factors, or material balances are as accurate as results gained through testing, or (4) the emissions from the emission point in the source are small compared to total source emissions and errors in estimating emissions from such points will not have a significant effect on the accuracy of estimated total emissions from the source. A fifth reason, applicable to base year emissions only, would be that the base year conditions no longer exist for the

emission point(s) and that source test results under current conditions could not be converted to base year conditions to establish emissions more accurately than could be obtained in other ways. Since there is a presumption of testing to define emissions, the source owner or operator would need to provide a justification based on one of these reasons to support the use of alternate methods. Acceptance of emissions data would be based on the appropriate use of test methods or other equivalent means of determining the emissions.

D. Enforceable Commitments

Section 112(i)(5) of the Act provides the opportunity for sources that achieve a 90 percent (95 percent for particulates) reduction in HAP emissions before proposal of an applicable MACT standard to obtain a six-year extension from compliance with the standard. Section 112(i)(5)(B) contains a special provision that is available to sources that would be subject to standards proposed before 1994.⁴ Because of the short time prior to proposal of these standards, sources subject to the standards would not have the same amount of time as sources affected by later standards to plan for and achieve early reductions prior to proposal of the applicable MACT standard. Therefore, Congress provided that if a source could not achieve reductions prior to proposal, the source still could qualify for a compliance extension and an alternative emission limitation if it enters into an enforceable commitment, before proposal of the applicable MACT standard, to achieve the 90 (95)

⁴ Currently, the EPA anticipates proposing section 112(d) standards before 1994 for the following source categories: synthetic organic chemical manufacturing industry, coke ovens, dry cleaners using perchloroethylene and 1,1,1-trichloroethane, commercial sterilizers, chromium electroplating and chromic acid anodizing, industrial cooling towers, and halogenated solvent cleaners.

percent reduction prior to January 1, 1994. The provision further states that "such commitment shall be enforceable to the same extent as a regulation under this section." Sources subject to early MACT standards, but which nonetheless have achieved qualifying reductions before proposal, are not required to submit enforceable commitments to participate in the early reduction program. Such sources need only file a permit application demonstrating that qualifying reductions have been achieved (see section II.F of this preamble for a discussion of permit applications).

The proposed rule would require that, before proposal of an applicable MACT standard, the enforceable commitment be submitted to the EPA Regional Office and a copy to the State in which the source is located. If the State has an approved permit program under Title V of the Act, the commitment must be sent to the appropriate state agency and a copy to the EPA Regional Office.

(See list of Regional Office addresses at the end of this section for submittal of commitments or for assistance in obtaining addresses of State reviewing agencies.)

The commitment to achieve the early reductions before January 1, 1994, is binding on the source and is enforceable under section 113 of the Act. There are several required components of an enforceable commitment. The commitment shall contain information identifying the name and location of the source, a description of the source as defined according to this rule, the base year estimate of HAP emissions for the source, the general plan for reducing those emissions, and a statement, signed by a responsible official representing the owner or operator of the source, committing the source to achieve the necessary reductions before January 1, 1994. The description of the planned emission reduction measures does not bind the source to carrying

out the plans exactly but should in sufficient detail to demonstrate that the source owner or operator has given serious consideration to real emission reduction measures that can be implemented to qualify the source for the early reduction program.

The commitment is considered to be "enforceable". The Agency believes that once a source has made a commitment to achieve early reductions, an enforcement action may be brought against that source if it fails to achieve the reductions or if fraudulent information is contained in the commitment. Sources found submitting fraudulent information in the commitment for early reduction shall be subject to enforcement action under Section 113 of the Act or other Federal statutes. All data and information submitted should be carefully reviewed by the owner or operator to assure accuracy and veracity. The EPA will ensure the integrity of information contained in the commitments by conducting audits of any or all submittals. The purpose of this activity is to encourage sources to ascertain that any commitment made is supported by acceptable emissions data. An enforceable commitment is a revocable commitment, and source owners or operators have the option to rescind such commitments before January 1, 1994. The proposed rule specifies that rescission requests be submitted by December 1, 1993, which will allow time before January 1, 1994 to alert the reviewing agency of the source's intention to withdraw. If a source elects to rescind its commitment prior to December 1, 1993, the source will be required to comply with the applicable MACT standard by the compliance date specified in the standard. Any source that does not rescind the commitment prior to December 1, 1993, and fails to achieve a 90 (95) percent reduction before January 1, 1994 will be subject to penalties for the emission reductions not achieved, until compliance is achieved with either the

enforceable commitment or the MACT standard for all affected sources. The penalty may vary depending on the amount of pollutant reduction already achieved and control measures required to achieve the target reduction but in most situations will exceed the economic benefit to the source for noncompliance. Such sources also are required to comply with the applicable MACT standard by the compliance date in the standard. Thus, the source would not only fail to obtain the six-year extension but would be subject to an enforcement action under section 113 of the Act.

The proposed detailed requirements for information to be contained in enforceable commitments are as follows:

1. Identifying information concerning the applicant and name of official contact person.
2. A general description of the source and information to verify that the source conforms to one of the allowable definitions of source.
3. A complete list of all HAP emission points that define the source for which the early reduction will be achieved.
4. A statement of base year emissions and the associated supporting basis accounting for all HAPs emitted from each emission point contained in the source (see section II.C.3 of this preamble for requirements pertaining to emission data submissions). Separate base year emissions for high-risk pollutants, discussed in Section III.B.2. of this preamble, would be required in addition to the total HAP emissions for each emission point.
5. A general plan for achieving the required emission reductions, including descriptions of emission control equipment to be employed, process changes or modifications to be made, and any other emission reduction

approaches upon which the source intends to rely (The plan is not an enforceable part of the commitment.)

6. A statement of commitment, signed by a responsible official, certifying the accuracy and veracity of the base year emission data; providing the post-control emission level(s) necessary to achieve the 90 (95) percent reduction and qualify for the compliance extension; committing to achievement of the stated post-control emission level(s); and acknowledging that the base year emission data are being submitted in response to EPA under the authority of section 114 of the Act and that the commitment is subject to enforcement as specified in the proposed rule.

Although an enforceable commitment must be submitted prior to proposal of an applicable MACT standard, some sources may be unable to provide, within that time frame, supporting source test data as required for some emission points. Therefore, the proposed rule allows an owner or operator up to 180 days after the applicable MACT proposal date to submit test data for such emission points. However, in order to make a complete enforceable commitment submittal before proposal, the owner or operator still must provide the best substitute calculations of base year emissions for those emission points. When results from the source tests are available, the owner or operator must submit the results and amend the enforceable commitment to take them into account.

The base year emission data submitted in an enforceable commitment may be audited by the Agency. Fraudulent statements will be considered violations of section 114 of the Act and of this proposed rule and, thus, actionable under section 113; they can be considered, in appropriate cases, violations of 18 U.S.C. Section 1001, the general false swearing criminal

provision of the Code. A source owner or operator should have a high degree of confidence in the emission numbers provided. Given the scope and effect of the Clean Air Act Amendments, resources of Federal, State, and local agencies and of source owners and operators will be taxed heavily, and should be expended only in serious activities to accomplish real environmental improvement. Thus, EPA encourages only those commitments to early reduction that are based on sound evaluation of HAP emission sources and emission reduction potential.

In determining what should be required in an enforceable commitment, the Administrator considered the purpose of a commitment and what would be needed to carry out that purpose. The only sources required to submit an enforceable commitment are those for which the early reduction of HAP emissions will occur after proposal of an applicable MACT standard and before January 1, 1994. The purpose of the commitment is, therefore, to encourage the source owner or operator to achieve a 90 (95) percent reduction earlier than otherwise required and to do so by extending the period otherwise provided for achieving the reduction (i.e. by the date of proposal of an applicable MACT standard) to January 1, 1994. In order to make such a commitment, a company will need to determine with at least some degree of accuracy that the planned emission reduction is achievable. To do this, emission points in the source must be identified and base year emissions from these points. An initial assessment of the types and effectiveness of appropriate emission reduction measures for these emission points should be made. Such information must be submitted as part of an acceptable enforceable commitment.

The Administrator could have required more information than that which is being proposed. In addition to the proposed requirements for documented

base year emissions and a clear definition of the emission points in the source, he could have required detailed descriptions of planned control measures with calculations showing how the planned emission reduction would be achieved for each emission point in the source. There are two reasons the proposed rule does not include this requirement. First, there is a very short time period between now and the scheduled date of proposal for early section 112(d) standards (about six months). Section 112(i)(5) of the Act and the proposed rule requires submission of the enforceable commitment before proposal of an applicable standard. require submittal of definite plans for specific emission control measures companies would have to obtain funding commitments from corporate officials and prepare full documentation for inclusion in the submittal. EPA believes that requiring such information within a short period of time poses an undue burden on companies.

A second reason for not requiring extensive details regarding plans for achieving the emission reduction is that it could legally bind the source to the specific measures in the commitment. The Administrator believes that the source owner or operator should be given flexibility to determine the best approach for achieving early reductions and should not be required to implement an approach that was committed to at an early date if that approach later proves to be infeasible to implement, inferior to, or more costly than another approach. Therefore, EPA believes that the proposed requirement for submittal of general emission reduction plans, with submittal of specific approaches required later as part of the permit application is the most reasonable alternative that is consistent with the goals of the early reduction program.

Enforceable commitments are to be submitted to the appropriate EPA Regional Office at the following addresses:

Director, Air, Pesticides, and Toxics Management Division, EPA Region I (AAA), John F. Kennedy Federal Building, Boston, MA 02203

Director, Air and Waste Management Division, EPA Region II, Jacob K. Javits Federal Plaza, New York, NY 10278

Director, Air Toxics and Radiation Management Division, EPA Region III, 841 Chestnut Street, Philadelphia, PA 19107

Director, Air Management Division, EPA Region 4, 345 Courtland Street, N.E., Atlanta, GA 30365

Director, Air and Radiation Division, EPA Region 5, 230 South Dearborn Street, Chicago, IL 60604

Director, Air, Pesticides and Toxics Division, EPA Region 6, 1445 Ross Avenue, 12th Floor, Suite 1200, Dallas, TX 75202

Director, Air and Toxics Division, EPA Region 7, 726 Minnesota Avenue, Kansas City, KS 66101

Director, Air and Toxics Division, EPA Region 8, 999 18th Street, Suite 500, Denver, CO 80202-2405

Director, Air and Toxics Division, EPA Region 9, 1235 Mission Street, San Francisco, CA 94103

Director, Air and Toxics Division, EPA Region 10, 1200 Sixth Avenue, Seattle, WA 98101

Enforceable commitments for several different sources within a contiguous facility may be aggregated into one submittal, providing the base year emissions and post-control emission levels committed to are identified separately for each source.

E. Review of Base Year Emissions

Each enforceable commitment and each permit application must contain base year emission data for each emission point in the source for which the applicant is requesting an early reduction extension. The Act requires that the base year emissions be "determined with respect to verifiable and actual emissions" and that the applicant show "there is no evidence that emissions in the base year are artificially or substantially greater than emissions in other years prior to implementation of emissions reduction measures." In other words, the base year emissions should represent, as accurately as possible, actual emissions during a normal year of operation. This is important because the base year emissions determine the amount of emission reduction and the residual HAP emission level that will qualify the source for a compliance extension.

Considering their importance to the program, EPA plans to review base year data submitted in enforceable commitments to determine their adequacy, and also will provide the opportunity for the States and the public to review and comment on the data. Sources that have achieved or will achieve HAP reductions prior to proposal do not have to make enforceable commitments. However, EPA also will provide review of base year emission data from such a source if requested by the owner or operator. In order to provide applicants speedy review of their base year data, EPA is proposing the following review procedure.

No later than 30 days after receipt of a commitment, the EPA Regional Office will notify the applicant whether the base year emission contained in the submittal is complete or incomplete. At this point in the review process, EPA is judging only whether all information required for the emission data

evaluation has been supplied, not whether the information is adequate for the purposes of the early reduction program. Where EPA determines the submission is incomplete, the deficiencies will be listed, and the applicant must correct and resubmit the base year emission data before further review can proceed.

Within 60 days of making a determination that a base year data submission is complete, EPA will judge its adequacy and give notice of the results. If EPA determines that the base year data represents actual and verifiable emissions, a notice will be published by advertisement in the area affected identifying the aggregate base year emissions number that is being proposed for approval for the source and noting the availability of the nonconfidential information contained in the enforceable commitment for public inspection in at least one location in the community in which the source is located and in the appropriate EPA Regional office. A 30-day public comment period will be provided, with an opportunity for extension to 60 days upon request. If EPA determines that the base year emissions are not approvable because they are incorrect or deficient in some manner, the applicant will be notified of the decision and the reasons for the decision. The applicant may correct and resubmit the base year emissions or choose not to revise the data. If revised base year emissions data are not received by the reviewing agency within 90 days of notifying the applicant of disapproval of base year emission data, the source will be considered to have withdrawn the enforceable commitment and a notice to that effect will be sent to the applicant. EPA is not proposing a time limit for submittal of revised data on the assumption that an applicant will resubmit its revised data as quickly as possible to provide adequate time after approval for implementation of the emission reduction plans. If the applicant chooses to submit corrected base year

emission data, EPA will review the revised version within 30 days and, if approvable, will publish a notice to that effect by advertisement in the area affected.

If no adverse comments are received on base year emission data proposed for approval, it will be considered approved upon expiration of the comment period and a notice of the approval will be sent to the applicant and published by advertisement in the area affected. However, if adverse comments are received during the comment period and EPA agrees with the comments, notice will be given to the applicant of disapproval and the reasons for disapproval. Again, the applicant will be given the opportunity to correct the data and resubmit to EPA. If revised base year data are submitted to EPA that adequately address the adverse comments, EPA will send notice of the approval to the applicant and publish a notice containing the approved base year emission data for the source.

In cases where adverse comments are received on proposed base year emission data and EPA determines that the comments do not warrant changing the data, EPA will publish a notice approving the base year data without changes and its reasons for not accepting the adverse comments. Such approval of base year emission data does not constitute a final agency action and, therefore, is not judicially reviewable.

It is important to note that the proposed rule does not provide an absolute shield against changes to the base year emission data. EPA intends to provide assurance to the applicant that approved emission data will be honored and will not be subject to change arbitrarily. However, discovery of incorrect or fraudulent information in the emission data or supporting materials even after its initial approval, could potentially invalidate the

base year data and require revision to it. In the case of fraudulent information, EPA may bring an enforcement action against the source owner or operator under Section 113 of the Act (see Section 63.80(b) of the proposed rule). Such discrepancies could be discovered at any stage of the process, including during review of the permit application. This possibility underscores the importance of the applicant submitting "verifiable and actual" data that have been carefully reviewed and approved by knowledgeable company officials.

This initial review of the base year emission data is not to be taken lightly. The EPA believes that adequate time will be provided for reviewers and commenters to examine the basis for the emission numbers. During this comment period, commenters are urged to present any criticisms regarding data quality and approach so that applicants can make appropriate modifications at that point and proceed with reasonable confidence that their emission data are acceptable. The EPA believes this approach will provide some level of certainty to participants concerning their base year emission data prior to their implementation of emission reductions. As noted, incorrect or fraudulent information cannot shield the applicant from further review at a later time.

During development of the proposed rule, industry representatives expressed concern about the Agency's plans to provide opportunity for public review and comment on base year emissions and supporting data and information. One concern was that the applicant may consider some of the supporting data and information to be confidential and, therefore, would not want it made available to the public. The EPA is sensitive to industry's need to keep certain information confidential. EPA will continue to follow its current

regulations concerning the treatment of confidential data. This policy will be followed in the early reduction program. The categories of data that are considered "emission data", and therefore nonconfidential include: identification of the facility and emission points, emission types (type of release point and specific pollutants), emission rates, release heights, descriptions of terrain and surrounding structures, stack or vent diameters at point of emission, release velocities, release temperatures, frequencies of releases, durations of releases, concentrations, densities of emission streams or average molecular weights, boiler or process design capacities, emission estimation methods, percent space heat, and hourly maximum design rates.

Once every month, EPA will publish in the FEDERAL REGISTER a list of any sources that have submitted enforceable commitments or base year emission data for review. Interested parties will be able to use these lists to identify the actions they wish to review and comment on and can contact the appropriate Regional Offices and State agencies for information.

F. Permit Applications and Permits

The request for a compliance extension and alternative emission limitation will be in the form of a permit application. The application should contain the elements necessary to demonstrate achievement of the early emission reduction as well as any additional information required for a complete permit application (as specified in regulations under Part 70 or 71, which implement permit programs required under Title V of the Act as amended). In most instances, the application must be received by the appropriate permitting authority before proposal of an applicable MACT standard. However,

there are two exceptions. The first exception is for sources that previously made an enforceable commitment, where the permit application must be received no later than December 1, 1993 (which may be after proposal of an applicable standard). The second exception is for sources which have achieved qualifying reductions prior to proposal of an applicable MACT standard but which are unable to submit a permit application before proposal, because the Federal permit program has not been initiated (i.e., Part 71 Federal permitting regulations have not been promulgated) and the State does not have a permit program approved pursuant to Title V of the Act. These programs will define the information needed for a complete permit application. This situation may arise within the next year or so, before Part 71 regulations are promulgated and any State permitting programs are approved. Therefore, to take this situation into account, the proposed rule specifies that the deadline for submitting permit applications under the early reduction program is the later of the following dates: (1) the date of proposal of an applicable MACT standard; or (2) 120 days after promulgation of Part 71 regulations or 120 days after approval of a State permit program under Title V of the Act, whichever occurs first. It is recommended that owners or operators in this situation notify the appropriate EPA Regional Office of their intent to send in a permit application for the early reduction program. The EPA Regional Office, in turn, will notify the potential applicant when the Part 71 regulations have been promulgated or the appropriate State has received approval for a Title V permit program, whichever occurs earlier. This will give the applicant timely notice of an approaching permit application submittal deadline.

The permit application for sources with an enforceable commitment should contain the information necessary to demonstrate that a qualifying early reduction has been achieved or, where applicable, will be achieved by January 1, 1994 (as required in §63.74 of the proposal rule). In the latter case, the source is required to provide, by March 31, 1994, additional data for any emission points for which emission data were not available on January 1, 1994. This second submittal allows the source time to provide required post-control emission data from tests conducted after final controls are in place, perhaps as late as December 31, 1993. The permit application should specify appropriate emission limitations for the source and the test method or equivalent means used for the determination. Current EPA plans, under proposed 40 CFR Part 70 (56 FR 21712), would require that the permit be issued within nine months after receipt of the complete permit application. Until that time, the enforceable commitment would remain the enforceable instrument for the source. Section 112(i)(5)(B) of the Act provides that the commitment "shall be enforceable to the same extent as a regulation under this section."

If the relevant State has an approved Title V permit program, it will be responsible for processing the application according to provisions in 40 CFR Part 70 (scheduled for promulgation in November 1991). For sources in States without approved Title V permit programs, applications should be submitted to the EPA Regional Office and will be processed according to provisions in 40 CFR Part 71. (These regulations are scheduled for proposal in November 1991, and promulgation in May 1992, and will specify the time increments for evaluation and approval/denial of permit applications at the State and Federal levels.) A fee may be required by States to offset the costs of reviewing

applications. (If EPA is the permitting authority, a fee as specified in 40 CFR Part 71 would be required.)

If the application is denied, the source will be subject to applicable MACT standards. If the application is approved, the permitting authority will prescribe a source specific emission limitation to ensure the continued reduction in emissions at the level which qualified the source for the extension. Compliance monitoring, reporting, and recordkeeping requirements also would be included. The emission limitation would be established by a permit issued under Title V of the Act (either by EPA or a State), would be effective and enforceable upon issuance, and would remain in effect until six years after the compliance date for the applicable standard, at which time the standard would take effect.

The permit application will provide a general description of the type of activity at the source which causes HAP emissions, identify the type of source category(ies) and the specific emission points that define the source for purposes of the early reduction demonstration, document the base year emissions accounting for all HAPs emitted from each emission point in the source, describe measures taken to achieve the early emission reduction, document post-control emissions accounting for each emission point in the source, provide calculations showing that the 90 (95) percent reduction has been achieved, and contain a certification by a responsible official of the source that the reduction was achieved. In addition, the application must specify methods for certification of compliance. Such methods would indicate how and when emissions will be monitored by the source owner or operator and how violations of the emission limits will be reported and corrected.

In determining whether to approve or deny a permit application, the permitting authority would evaluate available information, including that supplied by the source owner or operator and information received from public comments on the application. Specific to the demonstration of early reductions, the permitting authority would decide whether the information and data required had been provided and whether data were valid considering the following:

1. Were emission tests conducted in accordance with the procedures and requirements of the proposed rule?
2. Were justifications acceptable for using something other than testing to establish post-control emission data?
3. Are engineering calculations correct and the assumptions underlying the calculations valid?
4. Have emission factors been appropriately applied and can their use be reasonably expected to represent the emissions from the source accurately?
5. Are material balance data adequately documented by records and sufficiently accurate to give credible emission estimates?
6. Have all HAP emissions from each source for which a compliance extension is requested been documented and included in the calculations?

After evaluating a permit application containing an early reduction demonstration, the permitting authority will make a determination to either approve or deny it. If denied, the owner or operator will be notified of the reasons for denial, which may include any of the following:

1. The information provided by the owner or operator is incomplete.
2. The required 90 (95) percent reduction has not been demonstrated or it has not continued to be achieved after demonstration.

3. The base year or post-control emission data are incorrect or not sufficiently reliable or well-documented to determine with reasonable certainty that required reductions have been achieved. (Sources which submit base year emission data for review early, including sources which submit an enforceable commitment, will not be subject to a second base year review at the permit application stage. Note, however, that base year emission data could change at this stage if they are found to be based on incorrect or fraudulent information.

4. The emission of HAPs or the performance of emission control measures is sufficiently variable or unreliable as to preclude determination that the required reductions have been or will continue to be achieved.

If the application is approved, the reviewing agency would establish by permit issued under Title V of the Act enforceable emissions limitations for the source reflecting the control which qualified the source for the compliance extension. The permit would also include operating conditions and compliance monitoring, reporting, and recordkeeping requirements necessary to ensure continuing compliance.

Although the demonstration of 90 (95) percent reduction of HAP emissions must be expressed in terms of actual annual emissions, the emission limitation may be expressed in a number of different ways. A numerical emission limitation in the same format as applicable source category standards would be preferable. However, that may not be possible if, for example, the early reduction is being achieved with emission control technology that is different from that on which the standard is based. A different format may be necessary in such a case, or a different time period for averaging emissions (e.g., 24 hours vs. 1 month) may be appropriate. The main objective in

selecting the format and units of the emission limitation, and complementary monitoring, recordkeeping, and reporting requirements is to ensure continuing achievement of the 90 (95) percent reduction of emissions. Although a numerical emission limitation is the preferred format, if a numerical limitation is not feasible for technological or economic reasons, some other requirement could be established instead as long as it reflects the reduction which qualified the source for a compliance extension.

The emission limitation would be effective and enforceable immediately upon issuance of the permit for the source and would remain in effect until six years after the compliance date for the applicable section 112(d) standard, at which time the source would be required to comply with the standard. Since permits will be issued for periods not to exceed five years, there will be at least two permits in effect over the six-year compliance extension. The second and subsequent permits, which will be issued when the first one expires, will contain the alternative emission limitation for the remainder of the six-year extension.

Emission reductions of HAP for the purpose of obtaining an alternative emissions limitation under section 112(i)(5) of the Act are not creditable for the purpose of meeting an offset requirement under section 173(a)(1) of the Act. A source in a nonattainment area (an area where a national ambient air quality standard is exceeded) may need to obtain offsets for new construction or modification activities. The HAP reductions are not allowed as offsets in this instance because section 173(c)(2) of the Act states: "Emission reductions otherwise required by this Act shall not be creditable as emission reductions for purposes of any such offset requirement." A source emitting HAPs either will have to comply with a standard issued under section 112(d) of

the Act or an alternative emissions limitation which is granted to the source in lieu of such a standard. Therefore, the reduction of HAP emissions under the early reduction program is a substitute for the reduction of HAP emissions as "required" under a MACT standard.

However, a source owner or operator may use as offsets any reductions in HAP emissions in excess of those required to qualify for an exemption under the early reduction program or reductions in non-HAP emissions which are obtained through use of the HAP emission reduction measures, if such reductions are not required by any other provision of the Act and meet any other requirements for offsets under Title I of the Act. These reductions are allowed as offsets pursuant to 173(c)(2) of the Act which further states: "Incidental emission reductions which are not otherwise required by this Act shall be creditable as emission reductions for such purposes..." As a simple example, consider a source emitting ethylene (a non-HAP) and ethylene oxide (a HAP) which is controlled for purposes of qualifying for a compliance extension under the early reduction program. Assume that the control measures used reduce ethylene oxide emissions by 92 percent or 46 tons per year and also reduce ethylene emissions by 20 tons per year, although there is no requirement to reduce the ethylene emissions. Further, assume that the permit issued to the source requires a continuing 92 percent reduction. In this instance, the 20 ton per year reduction in ethylene emissions may be used, if needed, to offset an increase in volatile organic compound emissions from new construction or a modification of an existing source. Additionally, since the source achieved a 2 percent HAP reduction beyond that required to obtain an extension, the extra 2 percent reduction, or 1 ton per year in this example, may be used as an offset.

6. Selection of High Risk Pollutants

As described in Section II.C. of this preamble, EPA is proposing a list of high-risk pollutants. The methodology used to develop this list is considered reasonable and appropriate for the purposes of Section 112(i)(5)(E). The intent of this provision is to limit the use of offsetting reductions in emissions of other hazardous air pollutants as counting towards the 90 percent reduction in the high-risk pollutants. Other provisions of Section 112 may require ranking of the pollutants on the list of hazardous air pollutants in Section 112(b)(1). For example, establishing lesser quantities under Section 112(b)(1) and identifying the relative hazards to human health from emissions of each of the listed pollutants under Section 112(g) involve assessments of the relative hazards associated with pollutants on the list. While the approach for identifying the high-risk pollutants in today's rulemaking may be found to be appropriate for these other provisions, different approaches may also be considered appropriate. The selection of today's approach for the purposes of Section 112(i)(5)(E) is not intended to establish a precedent for the other provisions affected by hazard ranking or preclude the consideration of other alternatives. This section discusses the criteria and rationale for selection of this proposed list.

1. Criteria for Identifying High-Risk Pollutants.

The screening analysis employed a three-tiered approach in which the hazardous air pollutants were evaluated according to specific criteria. Only those pollutants meeting the criteria of the first tier were further evaluated in the second tier. Similarly, only those meeting the criteria for the second tier were evaluated in the third tier. Following the third tier, EPA examined the resulting list as well as the pollutants eliminated, and added back

several pollutants to the high-risk list based on additional considerations. Two pollutants (dibenzofurans and 2,3,7,8-tetrachlorodibenzo-p-dioxin) were not screened using the tiered analysis because Section 112(i)(5)(E) of the CAA specifically includes these pollutants on the high-risk list.

Prior to the screening process, available data on health effects for each of the pollutants were compiled. The health effects endpoints considered were carcinogenicity, reproductive and developmental toxicity, acute lethality, and systemic effects other than acute lethality (e.g., neurologic disorders). For carcinogens, there were two sources of information. The source for potency factors and weight-of-evidence (described below) was the Integrated Risk Information System (IRIS) which is administered by EPA's Office of Health and Environmental Assessment. The second source of information used to identify potential carcinogens of high concern was the hazard ranking developed to support reportable quantity adjustments under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), Section 102.

The IRIS was also used to gather information on noncarcinogens having an EPA-verified inhalation reference concentration or oral reference dose. A reference concentration or reference dose is an estimate (with uncertainty spanning perhaps an order of magnitude or more) of the daily exposure to the human population (including sensitive subpopulations) that is likely to be without deleterious effects during a lifetime. Uncertainty factors are typically used to derive a reference concentration or reference dose from experimental data to account for factors such as sensitive human subpopulations and the uncertainty in extrapolating animal data to humans. For pollutants with neither a reference concentration nor reference dose, the

primary source of information for health effects other than cancer was the Registry of Toxic Effects of Chemical Substances (RTECS), which is developed and maintained by the National Institute of Occupational Safety and Health. The RTECS data base is widely used as a toxicity data source by both industry and regulatory agencies. Although RTECS is not formally peer-reviewed, the data are from the scientific literature. The EPA recognizes the limitations associated with the lack of peer review, but believes for the initial step of compiling health effects information, RTECS represents one of most readily available comprehensive sources of information on toxicological endpoints other than cancer.

Information on the cancer potency factor, weight-of-evidence, and CERCLA hazard ranking was recorded for each carcinogen on the list where these data were available. The potency factor (i.e., the unit risk estimate) is an upper-bound estimate of the probability of an individual developing cancer as a result of exposure to a specified unit ambient concentration (e.g., 1 microgram per cubic meter) over a 70-year lifetime. The weight-of-evidence that a pollutant is a carcinogen is based on a classification scheme that considers the quality and adequacy of available health effects data. The weight-of-evidence classification scheme is described in EPA's Risk Assessment Guidelines of 1986 (EPA/600/8-87-045).

The CERCLA hazard ranking is a comprehensive evaluation of pollutants for potential carcinogenicity. Each pollutant was assigned a hazard ranking of "high", "medium", or "low." The hazard ranking is based on a review of human epidemiologic and/or animal bioassay data and a quantitative assessment of available data to calculate the relative strength of a pollutant to elicit a carcinogenic response. The hazard ranking methodology is described in the

EPA document entitled Methodology for Evaluating Potential Carcinogenicity in Support of Reportable Quantity Adjustments Pursuant to CERCLA Section 102 (EPA/600/8-89/053).

Data pertinent to reproductive and developmental effects, acute lethality, and other systemic effects were also recorded for each substance on the list. For reproductive and developmental effects and effects other than acute lethality, the lowest observed effect level (LOEL) was recorded. The LOEL is the lowest dose or exposure level of a chemical in a study at which a statistically or biologically significant effect is observed in the exposed animal population. For acute effects, the dose or concentration of a chemical required to cause death in 50 percent of the exposed population (LD_{50} or LC_{50}) was recorded. The EPA recognizes that lethality is not an endpoint typically used in developing environmental regulations and that there are issues concerning route-to-route extrapolation associated with LD_{50} 's. However, other types of preferable data are lacking for certain acutely toxic substances. In this analysis, the LD_{50} was used as a screening value only in the absence of other types of data such as reference concentrations or LOELs.

Both human and animal studies for each health effects category were examined, and data from studies involving inhalation, ingestion, and dermal absorption routes of exposure were considered. Once the health effects data were compiled, the pollutants were evaluated on the basis of potency or toxicity in each health effects category.

a. Tier 1 of the Analysis

The first tier of the analysis focused on whether the available health effects data for a pollutant met certain criteria. A potential carcinogen could meet the criteria if it had an EPA-approved potency factor or if it had

been designated as a CERCLA Section 102 chemical of high concern for potential carcinogenicity. The basis for these criteria is that the health effects data for pollutants with an approved potency factor or a high-concern designation have been thoroughly reviewed by EPA. Cancer risk assessment information (i.e., a potency factor designation) is considered approved by EPA only after the development of a health assessment document, including review by EPA's Science Advisory Board (SAB) or by consensus on available chronic toxicity data by the Carcinogen Risk Assessment Verification Endeavor (CRAVE), an inter-disciplinary scientific panel of EPA experts. Similarly, the CERCLA methodology and the individual evaluations of the high-concern chemicals have received both extensive EPA and external review as part of the rulemaking process for reportable quantities under CERCLA Section 102.

For carcinogens that also cause health effects other than cancer and for noncarcinogens, data used in support of development of an EPA-verified inhalation reference concentration or oral reference dose were given preference because the scientific studies have been extensively reviewed by EPA. If a verified reference concentration or dose was unavailable, the health effects data (i.e., the LOEL or LD₅₀) retrieved from RTECS was reviewed for quality of the scientific study. In examining the RTECS data, the following criteria were applied: 1) only data from studies involving inhalation, oral ingestion and skin application routes of exposure were considered (not, for example, intraperitoneal or intravenous routes of exposure); 2) both human and animal studies in each category were examined; and 3) data from Eastern European studies were considered only if other data on a given endpoint were unavailable. Although the strength of the scientific basis for route-to-route extrapolation varies between substances, the lack of

a complete inhalation data base for all hazardous air pollutants, as well as concern for possible indirect exposures, requires the consideration of noninhalation data.

It is possible that in the future additional verified potency factors or other health effects data may become available that indicate that a pollutant should be added to the high-risk list. In such a case, the CAA does not preclude the EPA from adding pollutants to the list. If EPA does add pollutants to the list, it is possible that a source already complying with an alternative emission limit may become subject to additional emission control requirements. The EPA solicits comments on whether or not a source already complying with alternative emission limits issued under section 112(i) should be exempted from any changes to the list of high-risk pollutants or whether these sources should be phased into compliance over a reasonable period of time, such as three years.

b. Tier 2 of the Analysis

The second tier of the evaluation was to determine which of the remaining pollutants merited further analysis based on potential for adverse public health effects under relevant exposure scenarios.

To evaluate this potential for carcinogens, generic exposure modeling was performed on 60 carcinogens for which approved potency factors were available. The EPA's Human Exposure Model was used for this exercise, and dispersion parameters representative of average conditions were assumed. The model provided an estimate of the ambient concentration in the vicinity of a source emitting 10 tons per year at an average release height of 10 meters under median meteorological conditions. The predicted long-term ambient concentration at a distance from the source (500 meters) representing the

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location of nearby residences was recorded. This modeled ambient concentration was then compared to the concentration for each pollutant that would result in an increase in cancer risk of one in ten thousand to the most exposed individual. This risk level was selected to be consistent with the presumptive acceptable risk benchmark described in the National Emission Standard for Hazardous Air Pollutants for benzene proposed on September 14, 1989 (54 FR 38044). Pollutants that would not exceed the presumptive benchmark (when emitted in amounts of ten tons per year) were not given further consideration in the analysis. Pollutants with the potential to exceed the benchmark when emitted in quantities of 10 tons per year or less were retained for further evaluation in Tier 3.

The generic modeling assumptions selected for this tier of the analysis were considered reasonable, given the purposes of this analysis. Other assumptions could have been used and would have resulted in either more or fewer pollutants exceeding the presumptive risk level used for this tier. For example, decreasing the distance to the nearest resident or decreasing the release height would result in higher predicted maximum concentrations and, therefore, more pollutants exceeding the presumptive risk level. Conversely, increasing the distance to the nearest resident or increasing the release height would result in lower concentrations and fewer pollutants exceeding the risk level.

Generic parameters were considered appropriate for this analysis because the high-risk list is intended to address specific pollutants and to span a range of emission release and exposure situations that could be anticipated across source categories. The EPA requests comment on the appropriateness of the modeling assumptions that were used.

Noncarcinogens with verified inhalation reference concentrations or oral reference doses met the criteria for this tier if the modeled ambient concentration (using the same modeling parameters described above) exceeded the reference concentration or dose by at least one order of magnitude. Noncarcinogens without verified inhalation reference concentrations or oral reference doses met the criteria for this tier if the modeled ambient concentration exceeded either a pollutant's LOEL or LD₅₀, divided by uncertainty factors of 100 and 1000, respectively, for any of the health effects categories described above (i.e., acute lethality, reproductive/developmental effects, and systemic effects other than lethality).

Uncertainty factors were applied to the health effects benchmarks since the LOEL and LD₅₀ values represent levels at which health effects are known to occur. These uncertainty factors are meant to account for variables such as interspecies variations and sensitive subpopulations. It should be noted, however, that the uncertainty factors used in this analysis do not account for all the factors typically considered in developing an inhalation reference concentration. In this sense, the analysis is not conservative.

By comparison, a reference concentration or reference dose represents the exposure level below which no deleterious effects are expected to occur over a lifetime of exposure. That is, the reference concentration or dose is a level at which the potential for public health effects would be considered negligible. To estimate a level at which public health risks could be potentially significant, the EPA deemed it appropriate to consider exposure levels one order of magnitude higher than the reference concentration or dose. These levels would therefore be somewhat higher than the reference

concentration or dose but would still be below the level at which health effects are known to occur.

The Tier 2 screening criteria, in effect, selected for further analysis 14 pollutants having either a LOEL less than or equal to 0.1 mg/kg/day for reproductive/developmental effects and effects other than acute lethality, an LD₅₀ less than or equal to 1.0 mg/kg/day for acute lethality, or reference concentration or dose less than 0.0003 mg/m³ or 0.0009 mg/kg/day.

c. Tier 3 of the Analysis

The final tier in the screening process consisted of a review of nationwide emissions data to determine whether or not each remaining pollutant would actually be emitted by one or more sources in quantities sufficient to result in significant risk to public health. The primary source of emissions information was the 1989 Toxics Release Inventory (TRI). Because the TRI data base is limited to certain pollutants, source industrial classification (SIC) codes, and facility sizes, additional data were also gathered for each pollutant. These additional data were derived from in-house EPA data bases on source categories (e.g., the source category listing) and the 1990 Chemical Economics Handbook - SRI International for information on U.S. production and consumption of chemicals.

Sources with reported emissions were evaluated against the presumptive benchmarks for significant health risk potential described previously in Tier 2. If no source in the U.S. reported emissions of a given pollutant sufficient to exceed the benchmarks, the pollutant was not included on the list. If one or more sources exceeded the benchmarks with reported emissions of a listed pollutant the pollutant was retained for designation as a high-risk pollutant. The rationale for this decision was that one source emitting a

listed pollutant could have an adverse impact on public health and should not be allowed to offset emissions of a high-risk pollutant with reductions in a less hazardous pollutant.

d. Additional Considerations

Based on the three tiers of analysis, 31 pollutants were identified as meeting the criteria for inclusion on the high-risk list. In examining those pollutants eliminated as a result of the screening tiers, however, EPA concluded that several carcinogens classified as Group A (known human carcinogens) should be retained on the list despite not meeting the exposure or significant source criteria. This resulted in the addition of 4 pollutants (benzene, benzidine, bis(chloromethyl)ether, and chloromethyl methyl ether). Section C.2. of this preamble contains the proposed list of high-risk pollutants (Table 2) and a description of the indexed weighting system that limits the participation of high-risk pollutants in the offsetting of emission reductions as part of early reduction demonstrations.

The EPA recognizes that a source's emissions may change from year to year. If emissions data become available that indicate that a pollutant should be added to the high-risk list, the CAA does not preclude EPA from doing so.

III. ADMINISTRATIVE REQUIREMENTS.

A. Public Hearing.

A public hearing will be held, if requested, to discuss the proposed regulation in accordance with Section 307(d)(5) of the Clean Air Act. Persons wishing to make oral presentations should contact EPA at the address given in the ADDRESSES section of this preamble. Oral presentations will be limited to 15 minutes each. Any member of the public may file a written statement with

EPA before, during, or within 30 days after the hearing. Written statements should be addressed to the Air Docket Section address given in the ADDRESSES section of this preamble.

A verbatim transcript of the hearing and written statements will be available for public inspection and copying during normal working hours at EPA's Air Docket Section in Washington, D.C. (see ADDRESSES section of this preamble).

B. External Participation.

In accordance with Section 117 of the Act, publication of this proposal was preceded by consultation with appropriate advisory committees, independent experts, and other regulatory agencies. In addition, a number of meetings were held with interested parties during development of the proposed regulation. The Administrator welcomes comments on all aspects of the proposed regulation.

C. Docket.

The docket is an organized and complete file of all the information submitted to or otherwise considered by EPA in the development of this proposed rulemaking. The principal purposes of the docket are: (1) to allow interested parties to identify and locate documents so that they can effectively participate in the rulemaking process and (2) to serve as the record in case of judicial review (except for interagency review materials [Section 307(d)(7)(A)]).

D. Paperwork Reduction Act.

Information collection requirements associated with this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. An Information

Collection Request document has been prepared by EPA (ICR No. 1582.01), and a copy may be obtained from (Sandy Farmer), Information Policy Branch, EPA, 401 M Street, S.W. (PM-223Y), Washington, D.C. 20460, or by calling (202) 382-2740. The public reporting burden for this collection of information is estimated to average 213 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. (This figure is obtained from the Supporting Statement prepared for the proposed rule.)

Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223Y, U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503, marked "Attention: Desk Officer for EPA." Comments are specifically requested concerning the reporting burden on small entities and whether special provisions are needed to reduce it. The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

E. Executive Order 12291 Review.

Under Executive Order 12291, OMB is required to judge whether a regulation is "major" and therefore subject to the requirement of a Regulatory Impact Analysis. The criteria set forth in Section 1 of the Order for determining whether a regulation is a major rule are as follows: (1) is likely to have an annual effect on the economy of \$100 million or more; (2) is likely to cause a major increase in costs or prices for consumers, individual

industries, geographic regions, or Federal, State, or local governments; or (3) is likely to result in significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of the United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

The Office of Management and Budget (OMB) has concluded that this regulation meets the first criteria of a major regulation; that the regulation will likely have an annual effect on the economy of \$100 million or more. The effect of this regulation is not adverse, however, and is realized as a savings to the economy. Because of the importance of proposing this regulation quickly, and because the annual effect is not adverse to the economy, a Regulatory Impact Analysis has not yet been prepared, but will be available at promulgation.

The proposed regulation presented in this notice was submitted to OMB for review as required by Executive Order 12291. Any written comments from OMB to EPA and any written EPA response to those comments will be included in the docket listed at the beginning of today's notice under ADDRESSES. The docket is available for public inspection at the EPA's Air Docket Section, which is listed in the ADDRESSES section of this preamble.

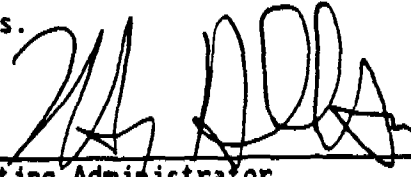
F. Regulatory Flexibility Act Compliance.

Pursuant to the provisions of 5 U.S.C. 605(b), I hereby certify that this rule, if promulgated, will not have a significant economic impact on a substantial number of small business entities because the impact of the proposed rule is not significant.

LIST OF SUBJECTS

Air pollution control, early emission reductions, hazardous air pollutants, compliance extensions, sources.

5-31-91
Date


Acting Administrator

It is proposed that 40 CFR Chapter I be amended by adding Part 63 to read as follows:

PART 63 - NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

Subpart A - General Provisions

Subpart B - [Reserved]

Subpart C - List of Hazardous Air Pollutants, Petition Processes, Lesser Quantity Designation, Source Category List

Subpart D - Regulations Governing Compliance Extensions for Early Reductions of Hazardous Air Pollutants

Sec.

63.70 Applicability.

63.71 Definitions.

63.72 General provisions for compliance extensions.

63.73 Source

63.74 Demonstration of early reduction.

63.75 Enforceable Commitments.

63.76 Review of base year emissions .

63.77 Application procedures.

63.78 Early reduction demonstration evaluation.

63.79 Approval of applications.

63.80 Enforcement.

63.81 Rule for special situations.

Appendix A - Test Methods

Method 301 - Field Validation of Emission Concentrations from Stationary Sources

Authority: Clean Air Act (42 U.S.C. 7401 [et seq.], as amended by Pub. L. 101-549).

Subpart D -- Regulations Governing Compliance Extensions for Early Reductions of Hazardous Air Pollutants.

§63.70 Applicability.

The provisions of this subpart apply to an owner or operator of an existing source who wishes to obtain a compliance extension from a standard issued under section 112(d) of the Act. The provisions of this subpart also apply to a State or local agency acting pursuant to a permit program approved under Title V of the Act. The Administrator will carry out the provisions of this subpart for any State that does not have an approved permit program.

§63.71 Definitions.

All terms used in this subpart not defined below are given the same meaning as in the Act or in Subpart A of this part.

"Act" means the Clean Air Act as amended.

"Actual emissions" means the actual rate of emissions of a pollutant , but does not include excess emissions from a malfunction. Actual emissions shall be calculated using the source's actual operating rates, and types of materials processed, stored, or combusted during the selected time period.

"Artificially or substantially greater emissions" means abnormally high emissions such as could be caused by equipment malfunctions, accidents, unusually high production or operating rates compared to historical rates, or other unusual circumstances.

"EPA Conditional Method" means any method of sampling and analyzing for air pollutants that has been validated by the Administrator but that has not been published as an EPA Reference Method.

"EPA Reference Method" means any method of sampling and analyzing for an air pollutant as described in Appendix A of Part 60, Appendix B of Part 61, or Appendix A of Part 63.

"Equipment leaks" means leaks from pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, agitators, accumulator vessels, and instrumentation systems in hazardous air pollutant service.

"Existing source" means any stationary source other than a new source.

"Hazardous air pollutant" means any air pollutant listed pursuant to section 112(b) of the Act.

"High-risk pollutant" means a hazardous air pollutant from the following list (corresponding Chemical Abstracts Service numbers are shown in parentheses next to the pollutant, where available): acrolein (107028); acrylic acid (79107); acrylamide (79061); acrylonitrile (107131); arsenic compounds (inorganic, including arsine); asbestos (1332214); benzene (71432); benzinene (92875); benzotrachloride (98077); beryllium compounds; bis(chloromethyl)ether (542881); 1,3-butadiene (106990); cadmium compounds; chlordane (57749); chloromethyl methyl ether (107302); chloroprene (126998); chromium compounds; coke oven emissions; dichloroethyl ether (111444); dibenzofuran (132649); ethylene dibromide (106934); heptachlor (76448); hexachlorobenzene (118741); hydrazine (302012); methylene diphenyl diisocyanate (101688); methyl isocyanate (624839); mercury compounds; phosgene (75445); 1,2-propylenimine (75558); 2,3,7,8-tetrachlorodibenzo-p-dioxin

(1746016); 1,1,2,2-tetrachloroethane (79345); 2,4-toluene diisocyanate (584849); vinyl chloride (75014); and vinylidene chloride (75354).

"Malfunction" means any sudden failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

"New source" means a stationary source the construction or reconstruction of which is commenced after the Administrator first proposes regulations under section 112(d) of the Act establishing an emission standard applicable to such source.

"Not feasible to prescribe or enforce a numerical emission limitation" means a situation in which the Administrator or a State determines that a pollutant (or stream of pollutants) listed pursuant to section 112(b) of the Act cannot be emitted through a conveyance designed and constructed to emit or capture such pollutant, or that any requirement for, or use of, such a conveyance would be inconsistent with any Federal law; or the application of measurement technology to a particular source is not practicable due to technological or economic limitations.

"Permitting authority" means either a State agency with an approved permitting program under Title V of the Act or the Administrator in cases where the State does not have an approved permitting program.

"Process or production unit" means equipment or machinery connected together or assembled into a unit for the purpose of making a product or performing a function.

"Responsible official" means one of the following:

(a) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation; or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

[Note: The EPA does not require specific assignments or delegations of authority to responsible officials. The Agency will presume that these responsible corporate officers have the requisite authority to sign enforceable commitments under this subpart unless the corporation has notified the enforceable commitment reviewing agency to the contrary. Corporate procedures governing authority to sign enforceable commitments may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.]

(b) For a partnership or sole proprietorship, a general partner or the proprietor, respectively; or

(c) For a municipality, State, Federal, or other public agency, either a principal executive officer or ranking elected official. For the purposes of this subpart, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

"Reviewing agency" means a State agency with an approved permitting program under Title V of the Act . An EPA Regional Office is the reviewing agency where the State does not have such an approved permitting program .

"State" means a State or local air pollution control agency.

§63.72 General provisions for compliance extensions.

(a) Except as provided in paragraph (f) of this section, a State acting pursuant to a permitting program approved under Title V of the Act shall by permit allow an existing source to meet an alternative emission limitation in lieu of an emission limitation promulgated under section 112(d) of the Act for a period of 6 years from the compliance date of the otherwise applicable standard provided the source owner or operator demonstrates:

(1) According to the requirements of §63.74 that the source has achieved a reduction of 90 percent (95 percent or more in the case of hazardous air pollutants which are particulates) in emissions of:

- (i) Total hazardous air pollutants from the source,
- (ii) Total hazardous air pollutants from the source as adjusted for high-risk pollutant weighting factors, if applicable.

(2) That such reduction was achieved before proposal of an applicable standard or, for sources eligible to qualify for an alternative emission limitation as specified in paragraph (c) of this section, before January 1, 1994.

(b) A source granted an alternative emission limitation shall comply with an applicable standard issued under section 112(d) of the Act immediately upon expiration of the six year compliance extension period specified in paragraph (a) of this section.

(c) An existing source which achieves the reduction specified in paragraph (a)(1) of this section after proposal of an applicable standard but before January 1, 1994, may qualify for an alternative emission limitation under paragraph (a) of this section if the source makes an enforceable commitment, prior to proposal of the applicable standard, to achieve such reduction. The enforceable commitment shall be made according to the procedures and requirements of §63.75.

(d) For each permit issued to a source under paragraph (a) of this section, there shall be established as part of the permit an enforceable alternative emission limitation for hazardous air pollutants reflecting the reduction which qualified the source for the alternative emission limitation.

(e) An alternative emission limitation shall not be available with respect to standards or requirements promulgated to provide an ample margin of safety to protect public health pursuant to section 112(f) of the Act, and the Administrator will, for the purpose of determining whether a standard under section 112(f) of the Act is necessary, review emissions from sources granted an alternative emission limitation under this subpart at the same time that other sources in the category or subcategory are reviewed.

(f) Nothing in this regulation shall preclude a State from requiring hazardous air pollutant reductions in excess of 90 percent (95 percent in the case of particulate hazardous air pollutants) as a condition of such State granting an alternative emission limitation authorized in paragraph (a) of this section.

§63.73 Source

(a) An alternative emission limitation may be granted under this subpart to an existing source. For the purposes of this subpart only, a source is defined as follows:

(1) A building structure, facility, or installation identified as a source by the EPA in Appendix B;

(2) All portions of an entire contiguous facility under common ownership or control that emit hazardous air pollutants;

(3) Any portion of an entire contiguous facility under common ownership or control that emits hazardous air pollutants and can be identified as a facility, building, structure, or installation for the purposes of establishing standards under section 112(d) of the Act;

(4) Any combination of sources defined in paragraph (a)(3) of this section, provided that emission reduction from the aggregation of sources constitutes a significant reduction of hazardous air pollutant emissions of the entire contiguous facility under common ownership or control; or

(5) Any individual emission point or combination of emission points within a contiguous facility under common control, provided that emission reduction from such point or aggregation of points constitutes a significant reduction of hazardous air pollutant emissions of the entire contiguous facility.

(b) For purposes of paragraphs (a)(4) and (a)(5) of this section, emissions reductions are considered significant if they are made from base year emissions of not less than:

(1) A total of 10 tons per year of hazardous air pollutants where the total emissions of hazardous air pollutants in the base year from the entire contiguous facility is greater than 25 tons per; or

(2) A total of 5 tons per year of hazardous air pollutants where the total emissions of hazardous air pollutants in the base year from the entire contiguous facility is less than or equal to 25 tons per year.

§63.74 Demonstration of early reduction.

(a) An owner or operator applying for an alternative emission limitation shall demonstrate achieving early reductions as required by §63.72(a)(1) by following the procedures in this section.

(b) An owner or operator shall establish the source for the purposes of this subpart by documenting the following information:

(1) A description of the source including; a site plan of the entire contiguous facility under common control which contains the source, markings on the site plan locating the parts of the site that constitute the source, and the activity at the source which causes hazardous air pollutant emissions;

(2) A complete list of all emission points of hazardous air pollutants in the source, including identification numbers and short descriptive titles; and

(3) A statement showing that the source conforms to one of the allowable definition options from §63.73. For a source conforming to the option in §63.73(a)(4) or (a)(5), the total base year emissions from the source, as determined pursuant to this section, shall be demonstrated to be at least:

(i) 5 tons per year, for cases in which total hazardous air pollutant emissions from the entire contiguous facility under common control are 25 tons per year or less as calculated under paragraph (n) of this section, or

(ii) 10 tons per year in all other cases.

(c) An owner or operator shall establish base year emissions for the source by documenting the following information:

(1) The base year chosen, where the base year shall be 1987 or later except that the base year may be 1985 or 1986 if the owner or operator of the source can demonstrate that emission data for the source for 1985 or 1986 was submitted to the Administrator pursuant to an information request issued under section 114 of the Act and was received by the Administrator prior to November 15, 1990;

(2) The best available data accounting for actual emissions, during the base year, of all hazardous air pollutants from each emission point listed in the source in paragraph (b)(2) of this section;

(3) The supporting basis for each emission number provided in paragraph (c)(2) of this section including;

(i) For test results submitted as the supporting basis, a description of the test protocol followed, any problems encountered during the testing, and a discussion of the validity of the method for measuring the subject emissions; and

(ii) For calculations based on emission factors, material balance, or engineering principles and submitted as the supporting basis, a step-by-step description of the calculations, including assumptions used, and a brief rationale for the validity of the calculation method used; and

(4) Evidence that the emissions provided under paragraph (c)(2) of this section are not artificially or substantially greater than emissions in other years prior to implementation of emission reduction measures.

(d) An owner or operator shall establish post-control emissions by documenting the following information:

(1) For the emission points listed in the source in paragraph (b)(2) of this section, a description of all control measures employed to achieve the emission reduction required by §63.72(a)(1);

(2) The best available data on an annual basis accounting for actual emissions, after the base year and following employment of control measures, of all hazardous air pollutants from each emission point in the source listed in paragraph (b)(2) of this section;

(3) The supporting basis for each emission number provided in paragraph (d)(2) of this section including:

(i) For test results submitted as the supporting basis, a description of the test protocol followed, any problems encountered during the testing, and a discussion of the validity of the method for measuring the subject emissions; and

(ii) For calculations based on emission factors, material balance, or engineering principles and submitted as the supporting basis, a step-by-step description of the calculations, including assumptions used, and a brief rationale for the validity of the calculation method used;

(4) Evidence that all emission reduction was achieved prior to proposal of an applicable standard issued under section 112(d) of the Act or, for sources subject to enforceable commitments, prior to January 1, 1994;

(5) Evidence that none of the emission reduction achieved at a source was due to lower production rates or fewer hours of operation compared to the base year, unless such lower rates or hours are employed continuously until any compliance extension granted to the source expires and no compensating increase in rates or hours occurs at other facilities within the contiguous

area under common control which contains the source or, if it occurs, does not result in emissions of hazardous air pollutants; and

(6) Evidence that emission reductions achieved due to shutdown of equipment will be permanent or will continue until the expiration of any compliance extension granted to such source. If shutdown equipment is replaced by new equipment, any hazardous air pollutant emissions from the new equipment shall be counted in the post-control emissions for the source.

(e) An owner or operator shall determine the following emission totals for the source, except that the emission totals specified in paragraphs (3) and (4) are not calculated when high-risk pollutants are not emitted from the source:

(1) Total base year emissions, calculated by summing all base year emission data from paragraph (c)(2) of this section;

(2) Total post-control emissions, calculated by summing all post-control emission data from paragraph (d)(2) of this section;

(3) Total base year emissions adjusted for high-risk pollutants, calculated by multiplying each emission number for a pollutant from paragraph (c)(2) of this section by the appropriate weighting factor for the pollutant from Table 1 and then summing all weighted emission data; and

(4) Total post-control emissions adjusted for high-risk pollutants, calculated by multiplying each emission number for a pollutant from paragraph (d)(2) of this section by the appropriate weighting factor for the pollutant from Table 1 and then summing all weighted emission data.

(f) If particulate and gaseous hazardous air pollutants are emitted from the source, separate emission totals for particulate pollutants and gaseous

Table 1
List of High Risk Pollutants

<u>Carcinogens</u>	<u>Weighting Factor*</u>
2,3,7,8-Tetrachlorodibenzo-p-dioxin	100,000
Benzidene	1,000
Bis(chloromethyl)ether	1,000
Asbestos	100
Chromium Compounds	100
Hydrazine	100
Arsenic Compounds (inorganic including arsine)	100
Chloromethyl Methyl Ether	10
Cadmium Compounds	10
Heptachlor	10
Beryllium Compounds	10
Acrylamide	10
Coke Oven Emissions	10
Hexachlorobenzene	10
Chlordane	10
Dichloroethyl ether (Bis(2-chloroethyl)ether)	10
1,3-Butadiene	10
Benzotrichloride	10
Ethylene dibromide (Dibromoethane)	10
Ethylene oxide	10
Vinyl chloride	10
Acrylonitrile	10
1,1,2,2-Tetrachloroethane	10
Vinylidene chloride (1,1-Dichloroethylene)	10
Benzene	10
1,2-Propylenimine (2-Methyl aziridine)	10
<u>Noncarcinogens</u>	
2,4-Toluene diisocyanate	10
Acrolein	10
Acrylic acid	10
Chloroprene	10
Dibenzofurans	10
Mercury Compounds	10
Methyl isocyanate	10
Methylene diphenyl diisocyanate (MDI)	10
Phosgene	10

*HAP not on the high risk list have a weighting factor of 1

pollutants shall be calculated pursuant to paragraphs (e)(1) through (e)(4) of this section, except for cases where a combined particulate and gaseous pollutant reduction demonstration is made.

(g) By comparing the emission totals calculated in paragraphs (e)(1) through (e)(4) of this section, an owner or operator shall show that both total base year emissions and total base year emissions adjusted for high-risk pollutants, as applicable, have been reduced by at least 90 percent for gaseous hazardous air pollutants emitted and 95 percent for particulate hazardous air pollutants emitted, or a combined percentage between 90 and 95 percent for sources emitting gaseous and particulate hazardous air pollutants, where the exact percentage is determined and documented according to the following paragraph.

(h) Where the owner or operator applies a combined percent reduction for gaseous and particulate emissions emitted from the source pursuant to paragraph (g) of this section, the percent reduction applied shall be calculated as follows:

$$\%_w = \frac{0.9(\sum M_g) + 0.95(\sum M_p)}{\sum M_g + \sum M_p} \times 100$$

where $\%_w$ = the required weighted percent reduction

$\sum M_g$ = the total mass rate (e.g., kg/yr) of all gaseous emissions

$\sum M_p$ = the total mass rate of all particulate emissions

(i) The best available data representing actual emissions for the purpose of establishing base year or post-control emissions under this section

shall consist of documented results from source tests using an EPA Reference Method, EPA Conditional Method, or the owner's or operator's source test method which has been validated pursuant to Method 301 of Appendix A of this part. However, if one of the following conditions exists, an owner or operator may submit, in lieu of results from source tests, calculations based on engineering principles, emission factors, or material balance data as actual emission data for establishing base year or post-control emissions:

(1) No applicable EPA Reference Method, EPA Conditional Method, or other source test method exists;

(2) It is not technologically or economically feasible to perform source tests;

(3) It can be demonstrated to the satisfaction of the reviewing agency that the calculations will provide emission estimates of accuracy comparable to that of any applicable source test method;

(4) For base year emission estimates only, the base year conditions no longer exist at an emission point in the source and emission data could not be produced for such an emission point, by performing source tests under currently existing conditions and converting the test results to reflect base year conditions, that is more accurate than an estimate produced by using engineering principles, emission factors, or a material balance; or

(5) The emissions from one or a set of emission points in the source are small compared to total source emissions and potential errors in establishing emissions from such points will not have a significant effect on the accuracy of total emissions established for the source.

(j) For base year or post-control emissions established under this section that are not supported by source test data, the source owner or operator shall include the reason source testing was not performed.

(k) In cases where emission control measures have been employed less than a year prior to demonstrating emission reductions under this section, an owner or operator shall extrapolate post-control emission rate data to an annual basis and shall describe the extrapolation method as part of the supporting basis required under subparagraph (d)(5) of this section.

(l) The EPA average emission factors for equipment leaks cannot be used under this subpart to establish base year emissions for equipment leak sources.

(m) A source owner or operator shall not establish base year or post-control emissions, for any emission point in the source, that exceed allowable emission levels specified in any applicable law, regulation, or permit condition.

(n) For sources subject to subparagraph (b)(3)(i) of this section, an owner or operator shall document total base year emissions from an entire contiguous facility under common control by providing the information required pursuant to paragraphs (b)(2), (c)(2), and (e)(1) of this section for all hazardous air pollutants from all emission points in the contiguous facility under common control.

§63.75 Enforceable commitments.

(a) To make an enforceable commitment an owner or operator shall submit a commitment to achieve the early reductions required under §63.72(a)(1) to the appropriate EPA Regional Office and a copy of the commitment to the appropriate State, except that the commitment shall be submitted to the State

and a copy to the EPA Regional Office if the State has an approved permitting program under Title V of the Act. A copy shall also be submitted to both the EPA Office of General Counsel (LE-132A), 401 M Street, SW, Washington, DC 20460 and the EPA Emission Standards Division (MD-13), Research Triangle Park, NC 27711; attention both to the Early Reductions Officer. The commitment shall contain:

- (1) The name and address of the source;
- (2) The name and telephone number of the source owner or operator or other responsible official who can be contacted concerning the commitment;
- (3) An alternative mailing address if correspondence is to be directed to a location other than that given in paragraph (a)(1) of this section;
- (4) All information specified in §63.74(b), (c) and (e)(1), which defines and describes the source and establishes the base year hazardous air pollutant emissions from the source;
- (5) The general plan for achieving the required hazardous air pollutant emissions reductions at the source including descriptions of emission control equipment to be employed, process changes or modifications to be made, and any other emission reduction measures to be used; and
- (6) A statement of commitment, signed by a responsible official of the source, containing the following:
 - (i) A statement providing the post-control emission levels for total hazardous air pollutants and high-risk pollutants, as applicable, from the source on an annual basis which reflect a 90 percent (95 percent for particulate pollutants) reduction from base year emissions;
 - (ii) A statement certifying that the base year emission data submitted as part of the enforceable commitment constitute the best available data for

base year emissions from the source and are correct to the best of the responsible official's knowledge;

(iii) A statement that it is understood by the source owner or operator that submission of base year emissions constitutes a response to an EPA request under the authority of section 114 of the Act and that the commitment is subject to enforcement according to §63.80; and

(iv) A statement committing the source owner or operator to achieving the emission levels, listed in subparagraph (i) of this paragraph, at the source before January 1, 1994.

(b) The following language may be used to satisfy the requirements of subparagraphs (a)(6)(ii) through (a)(6)(iv) of this section:

"I certify to the best of my knowledge that the base year emissions given above are accurate and acknowledge that these estimates are being submitted in response to an EPA request under section 114 of the Act. Furthermore, I commit to achieve before January 1, 1994 the stated post-control emission level(s) at the source, which will provide the 90 (95) percent reduction required to qualify for the compliance extension, and acknowledge that this commitment is enforceable as specified in Title 40 Part 63 Subpart D of the Code of Federal Regulations."

(c) A commitment for a source shall be submitted prior to proposal of an applicable standard issued under section 112(d) of the Act. Commitments received after the proposal date shall be void.

(d) If test results for one or more emission points in a source are required to support base year emissions in an enforceable commitment but are not available prior to proposal of an applicable standard issued under section 112(d) of the Act, the test results may be submitted after the enforceable

commitment is made but no later than 180 days after proposal of an applicable standard. In such cases, the enforceable commitment shall contain the best substitute emission data for the points in the source for which test results will be submitted later.

(e) An owner or operator may rescind such a commitment prior to December 1, 1993 without penalty and forfeit the opportunity to obtain a six year compliance extension under this subpart.

§63.76 Review of base year emissions.

(a) Pursuant to the procedures of this section, the appropriate reviewing agency shall review and approve or disapprove base year emission data submitted in an enforceable commitment under §63.75 or in a request letter from an applicant that wishes to participate in the early reduction program but who is not required to submit an enforceable commitment. For review requests submitted to a State agency as the appropriate reviewing agency, a copy of the request also shall be submitted to the applicable EPA Regional Office. For review requests submitted to the EPA Regional Office as the appropriate reviewing agency, a copy of the request also shall be sent to the applicable State agency. Copies also shall be submitted to the EPA Office of General Counsel (LE-132A), 401 M Street, SW, Washington, DC 20460 and the EPA Emission Standards Division (MD-13), Research Triangle Park, NC 27711; to the attention of the Early Reductions Officer.

(b) Within 30 days of receipt of an enforceable commitment or base year emission data, the reviewing agency shall advise the applicant that:

- (1) The base year emission data are complete as submitted; or
- (2) The base year emission data are not complete and include a list of deficiencies that must be corrected before review can proceed.

(c) EPA will publish a notice in the FEDERAL REGISTER which contains a list, accumulated for the previous month, of the sources for which complete base year emission data have been submitted and which are undergoing review either in the EPA Regional Office or a State agency within the EPA region. The notice will contain the name and location of each source and a contact in the EPA Regional Office for additional information.

(d) Within 60 days of a determination that a base year emission data submission is complete, the reviewing agency shall evaluate the adequacy of the submission with respect to the requirements of §63.74(b) and (c) and either:

(1) Determine to approve the submission and publish a notice, by advertisement in the area affected, providing the aggregate base year emission data for the source and the rationale for the proposed approval, noting the availability of the nonconfidential information contained in the submission for public inspection in at least one location in the community in which the source is located, providing for a public hearing upon request by an interested party, and establishing a 30 day public comment period that can be extended to 60 days upon request by an interested party; or

(2) Determine to disapprove the base year emission data and give notice to the applicant of the reasons for the disapproval. An applicant may correct disapproved base year data and submit revised data for review in accordance with this subsection, except that the review of a revision shall be accomplished within 30 days.

(e) If no adverse public comments are received by the reviewing agency on proposed base year data for a source, the data shall be considered approved at the close of the public comment period and a notice of the approval shall

be sent to the applicant and published by the reviewing agency by advertisement in the area affected.

(f) If adverse comments are received and the reviewing agency agrees that corrections are needed, the reviewing agency shall give notice to the applicant of the disapproval and reasons for the disapproval. An applicant may correct disapproved base year emission data and submit revised emission data. If a revision is submitted by the applicant that, to the satisfaction of the reviewing agency, takes into account the adverse comments, the reviewing agency will publish by advertisement in the area affected a notice containing the approved base year emission data for the source and send notice of the approval to the applicant.

(g) If adverse comments are received and the reviewing agency determines that the comments do not warrant changes to the base year emission data, the reviewing agency will publish by advertisement in the area affected a notice containing the approved base year emission data for the source and the reasons for not accepting the adverse comments. A notice of the approval also shall be sent to the applicant.

(h) If an applicant submits revised emission data under paragraphs (d)(2) or (f) of this section for a source subject to an enforceable commitment, the applicant also shall submit an amended enforceable commitment which takes into account the revised base year emissions.

(i) If revised base year emission data are not submitted by an applicant within 90 days of receiving a notice of disapproved base year emission data for a source that is subject to an enforceable commitment, the enforceable commitment shall be considered withdrawn and a notice to that effect shall be sent by the reviewing agency to the applicant.

§63.77 Application procedures.

(a) To apply for an alternative emission limitation under §63.72, an owner or operator of the source shall file a permit application with the appropriate permitting authority.

(b) If filed with a State agency, the permit application shall contain a demonstration of early reduction for the source as prescribed in §63.74 and the additional information required for a complete permit application as specified by the State's permitting program approved under Title V of the Act.

(c) If filed with an EPA Regional Office, the permit application shall contain a demonstration of early reduction for the source as prescribed in §63.74 and the additional information required for a complete permit application as specified by Federal permitting regulations under Part 71.

(d) Permit applications under this section for sources not subject to enforceable commitments shall be submitted by the later of the following dates:

(1) The date of proposal of an otherwise applicable standard issued under section 112(d) of the Act, or

(2) 120 days after promulgation of Part 71 regulations or 120 days after approval of a State permit program under Title V of the Act, whichever occurs first.

(e) Permit applications for sources subject to enforceable commitments pursuant to §63.75 shall be submitted no later than December 1, 1993.

(f) If a source test is the supporting basis for a post-control emission estimate for one or more emission points in the source but the test results are not available by the deadline for submittal of a permit application according to paragraph (d) of this section, the owner or operator shall

provide the supporting basis no later than 90 days after the applicable deadline for submittal of the permit application or no later than March 31, 1994 for sources subject to an enforceable commitment.

(g) Review and disposition of permit applications submitted under this section will be accomplished according to Part 70 regulations where a State agency is the appropriate permitting authority and according to Part 71 regulations where an EPA Regional Office is the appropriate permitting authority.

§63.78 Early reduction demonstration evaluation.

(a) The permitting authority will evaluate an early reduction demonstration submitted by the source owner or operator in a permit application with respect to the requirements of §63.74.

(b) An application for a compliance extension may be denied if, in the judgement of the permitting authority, the owner or operator has failed to demonstrate that the requirements of §63.74 have been met. Specific reasons for denial include, but are not limited to:

- (1) The information supplied by the owner or operator is incomplete;
- (2) The required 90 percent reduction (95 percent in cases where the hazardous air pollutant is particulate matter) has not been demonstrated;
- (3) The base year or post-control emissions are incorrect, based on methods or assumptions that are not valid, or not sufficiently reliable or well documented to determine with reasonable certainty that required reductions have been achieved; or
- (4) The emission of hazardous air pollutants or the performance of emission control measures is sufficiently variable or unreliable as to

preclude determination that the required reductions have been achieved or will continue to be achieved during the extension period.

§63.79 Approval of applications.

(a) If an early reduction demonstration is approved and other requirements for a complete permit application are met, the permitting authority shall establish by a permit issued pursuant to Title V of the Act enforceable alternative emissions limitations for the source reflecting the reduction which qualified the source for the extension. However, if it is not feasible to prescribe a numerical emissions limitation for one or more emission points in the source, the permitting authority shall establish such other requirements, reflecting the reduction which qualified the source for an extension, in order to assure the source achieves the 90 percent or 95 percent reduction, as applicable.

(b) An alternative emissions limitation or other requirement prescribed pursuant to paragraph (a) of this section shall be effective and enforceable immediately upon issuance of the permit for the source and shall expire exactly six years after the compliance date of an otherwise applicable standard issued pursuant to section 112(d) of the Act.

§63.80 Enforcement.

(a) All base year or post-control emissions information described in §63.74 and required to be submitted as part of a permit application under §63.77 or an enforceable commitment under §63.75 shall be considered to have been requested by the Administrator under the authority of section 114 of the Act.

(b) Fraudulent statements contained in any base year or post-control emissions submitted to a State or EPA Regional Office under this subpart

shall be considered violations of section 114 of the Act and of this regulation and, thus, actionable under section 113 of the Act and can be considered, in appropriate cases, violations of 18 U.S.C. §1001, the general false swearing provision of the United States Code.

(c) If a source subject to an enforceable commitment fails to achieve reductions before January 1, 1994, sufficient to qualify the source for an extension under this subpart, the source shall be considered to be in violation of the commitment and shall be subject to enforcement action under section 113 of the Act.

(d) If an early reduction demonstration in a permit application filed under §63.77 is disapproved for a source not subject to an enforceable commitment, the owner or operator shall comply with an applicable standard issued under section 112(d) of the Act by the compliance date specified in such standard.

(e) If an early reduction demonstration in a permit application filed under §63.77 is disapproved for a source that is subject to an enforceable commitment, the owner or operator shall comply with an applicable standard issued under section 112(d) of the Act by the compliance date specified in such standard and will be subject to enforcement action under section 113 of the Act.

(f) A violation of an alternative emission limitation or other requirement established by permit under §63.79(a) or (b) for the source is enforceable pursuant to the authority of section 113 of the Act notwithstanding any demonstration of continuing 90 percent (95 percent for hazardous air pollutants which are particulates) emission reduction over the entire source.

§ 63.81 Rule for Special Situations.

(a) If more than one standard issued under section 112(d) of the Act would be applicable to a source as defined under §63.73, then the date of proposal referred to in §63.72(a)(2), §63.72(c), §63.74(d)(6), §63.75(c), and §63.77(d) is the date the first applicable standard is proposed.

Appendix A - Test Methods

Method 301--Field Validation of Emission Concentrations from Stationary Sources

1. Applicability and Principle

1.1 **Applicability.** This Method, as specified in the applicable subpart, is to be used whenever a source owner or operator (hereafter referred to as an "analyst") proposes a test method to meet a U.S. Environmental Protection Agency (EPA) requirement in the absence of a validated method. This Method includes procedures for determining and documenting the quality, i.e., systematic error (bias) and random error (precision), of the measured concentrations of the source emissions.

1.1.1 If EPA currently recognizes an appropriate test method or considers the analyst's test method to be satisfactory for a particular source, the Administrator may waive the use of this protocol or may specify a less rigorous validation procedure. A list of validated methods may be obtained by contacting the Emission Measurement Technical Information Center (EMTIC), Mail Drop 19, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711, 919/541-0200. Procedures for obtaining a waiver are in Section 12.0.

1.1.2 This method includes optional procedures that may be used to expand the applicability of the proposed method. Section 7.0 involves ruggedness testing (Laboratory Evaluation), which demonstrates the sensitivity of the method to various parameters. Section 8.0 involves a procedure for including sample stability in bias and precision for assessing sample recovery and analysis times; Section 9.0 involves a procedure for the determination of the

practical limit of quantitation for determining the lower limit of the method. These optional procedures are required for waiver consideration method status, Section 12.0.

1.2 Principle. The purpose of these procedures is to determine bias and precision of a test method at a permissible emission concentration, e.g., emission standard, in the gas stream. The procedures involve (a) introducing known concentrations of an analyte or comparing the test method against a validated test method to determine the method's bias and (b) collecting multiple or collocated simultaneous samples to determine the method's precision.

1.2.1 Bias. Bias is established by comparing the method's results against a reference value and may be eliminated by dividing the measured concentration by an appropriate factor (i.e., average measured concentration/reference value). An offset bias may be handled accordingly. Methods that have bias correction factors outside 0.7 to 1.3 are unacceptable. Validated method to proposed method comparisons, Section 6.2, requires a more restrictive test of central tendency and a lower correction factor allowance of 0.90 to 1.10.

1.2.2 Precision. At least two (i.e., paired) sampling trains shall be used to establish precision. The precision of the method at the level of the emission standard shall not be greater than 50 percent relative standard deviation. For a validated method to proposed method equivalency comparisons, Section 6.2, the analyst must demonstrate that the precision of the proposed test method is as precise as the validated method for acceptance.

2. Definitions.

2.1 Negative bias. Bias Resulting when the measured result is less than the "true" value.

2.2 Paired trains. Two collocated and simultaneously operated sampling systems.

2.3 Positive bias. Bias resulting when the measured result is greater than the "true" value.

2.4 Proposed method. The sampling and analytical methodology selected for field validation using the method described herein.

2.5 Quadruplicate trains. Four collocated and simultaneously operated sampling train system.

2.6 Surrogate compound. A compound that serves as a model for the types of compound being analyzed. The model can be distinguished by the method from the compounds being analyzed.

3. Reference Material. The analyst shall obtain a known concentration of the reference material (i.e., analyte of concern) from an independent source such as a specialty gas manufacturer, specialty chemical company, or commercial laboratory. A list of vendors may be obtained from EMTIC (see Section 1.1.1). The analyst should obtain the manufacturer's stability data of the analyte concentration and recommendations for recertification. If the reference material is in the gaseous state, the concentration(s) [multiple levels may be required to expand a method's concentration applicability] shall be within 0.20 to 5 times the average concentration in the sample gas stream.

3.1 Surrogate Reference Materials. The analyst may use surrogate compounds, e.g., for highly toxic or reactive organic compounds, provided the analyst can demonstrate to the Administrator's satisfaction that the surrogate compound behaves as the analyte. A surrogate may be an isotope or one that contains a unique element (e.g., chlorine) that is not present in the stack

gas or a derivative of the toxic or reactive compound, if the derivative formation is part of the method's procedure. Laboratory experiments or literature data may be used to show behavioral acceptability.

3.2 Isotopically Labeled Materials. Isotope mixtures may contain the isotope and the natural analyte. For best results, the isotope labeled analyte concentration should be more than five times the natural concentration of the analyte. Deuterated compounds of interest may be in gaseous or liquid states. The gaseous form should be obtained in compressed-gas cylinders in high-purity nitrogen.

4. EPA Performance Audit Material

4.1 To assess the method bias independently, the analyst shall use (in addition to the reference material) an EPA performance audit material, if it is available. The analyst may contact EMTIC (see Section 1.1.1) to receive a list of currently available EPA audit materials. If the analyte is listed, the analyst should request the audit material at least 30 days before the validation test. If an EPA audit material is not available, request documentation from the validation report reviewing authority that the audit material is currently not available from EPA. Include this documentation with the field validation report.

4.2 The analyst shall sample and analyze the performance audit sample three times according to the instructions provided with the audit sample. The analyst shall submit the three results with the field validation report. Although no acceptance criteria are set for these performance audit results, the analyst and reviewing authority may use them to assess the relative error

of sample recovery, sample preparation, and analytical procedures and then consider the relative error in evaluating the measured emissions.

5. Procedure for Determination of Bias and Precision in the Field. The analyst shall select one of the sampling approaches below to determine the bias and precision of the data. After analyzing the samples, the analyst shall calculate the bias and precision according to the procedure described in Section 6.0.

5.1 Isotopic Spiking. This approach shall be used only for methods that require gas chromatography/mass spectrometry (GC/MS) analysis. Bias and precision are calculated by procedures described in Section 6.1.

5.1.1 Number of Samples and Sampling Runs. Collect a total of 12 samples using either paired (2) or quadruplet (4) collocated sampling trains. For paired trains, conduct six sampling runs. For quadruplet trains, conduct three sampling runs.

5.1.2 Spiking Procedure. Spike all 12 sampling trains with the reference material as follows. The spike shall be introduced as close to the tip of the probe as possible.

5.1.2.1 Gaseous Reference Material with Sorbent or Impinger Trains. Sample the reference material (in the laboratory or in the field) at a concentration equal to the level of the emission standard for the time required by the method, and then sample the gas stream for an equal amount of time. The time for sampling both the reference material and gas stream should be equal; however, the time should be adjusted to avoid sorbent breakthrough.

5.1.2.2 Gaseous Reference Material with Sample Container (Bag or Canister). Spike the containers after completion of the test run with an

amount equal to the level of emission standards. The final concentration of the reference material shall approximate the level of the emission standard. The volume amount of reference material shall be less than 10 percent of the sample volume.

5.1.2.3 Liquid and Solid Reference Material with Sorbent or Impinger Trains. Spike the trains with an amount equal to the level of the emission standard before sampling the stack gas. The spiking should be done in the field; however, it may be done in the laboratory.

5.1.2.4 Liquid and Solid Reference Material with Sample Container (Bag or Canister). Spike the containers at the completion of each test run with an amount equal to the level of the emission standard.

5.2 Comparison Against a Validated Test Method. Bias and precision are calculated using the procedures described in Section 6.2. This approach shall be used when a validated method is available and an alternative method is being proposed.

5.2.1 Number of Samples and Sampling Runs. Collect a total of 18 samples using paired trains or 16 samples using quadruplet sampling trains. For paired trains, conduct nine sampling runs. For quadruplet trains, conduct four sampling runs. In each run, the validated test method shall be used to collect and analyze half of the samples.

5.2.2 Performance Audit Exception. Conduct the performance audit as required in Section 4.0 for the validated test method. Conducting a performance audit on the test method being evaluated is recommended.

5.2.3 Probe Placement and Arrangement. The probes should be placed in the same horizontal plane. For paired sample probes the arrangement should be that the probe tip is 2.5 cm from the outside edge of the other with the pitot

tube on the outside of each probe. For quad probes, the tips shall be in a 6.0 cm x 6.0 cm square area measured from the inside edge of the probe tip with the pitot tube in the center.

5.3 Analyte Spiking. Bias and precision are calculated using the procedures described in Section 6.3.

5.3.1 Number of Samples and Sampling Runs. Collect a total of 24 samples using quadruplet sampling trains. Conduct six sampling runs.

5.3.2 In each run, spike half of the sampling trains (two out of the four) according to the applicable procedure in Sections 5.1.2.1 through 5.1.2.4.

6. Calculations.

Data resulting from the procedures specified in Section 5.0 shall be treated as follows to determine bias, correction factors, relative standard deviations, precision, and data acceptance.

6.1 Isotopic Spiking. Analyze the data for isotopic spiking tests as outlined in Sections 6.1.1 through 6.1.6.

6.1.1 Calculate the numerical value of the bias using the results from the analysis of the isotopically spiked field samples and the calculated value of the isotopically labeled spike:

$$B = S_m - CS \quad \text{Eq. 301-1}$$

where:

B = bias at the spike level;

S_m = mean of the measured values of the isotopically spiked samples;
CS = calculated value of the isotopically labeled spike.

6.1.2 Calculate the standard deviation of the S_i values as follows:

$$SD = \sqrt{\frac{\sum (S_i - S_m)^2}{(n-1)}} \quad \text{Eq. 301-2}$$

where:

S_i = The measured value of the isotopically labeled analyte in the i th field sample;

n = The number of isotopically spiked samples, 12.

6.1.3 Calculate the standard deviation of the mean (SDM) as follows:

$$SDM = \frac{SD}{\sqrt{n}} \quad \text{Eq. 301-3}$$

6.1.4 Test the bias for statistical significance by calculating the t -statistic,

$$t = \frac{|B|}{SDM} \quad \text{Eq. 301-4}$$

and compare it with the critical value of the two-sided t-distribution at the 95-percent confidence level and n-1 degrees of freedom. This critical value is 1.80 for the eleven degrees of freedom when the procedure specified in Section 5.1.2 is followed. If the calculated t-value is greater than the critical value the bias is statistically significant and the analyst should proceed to evaluate the correction factor.

6.1.5 Calculation of a correction factor. If the t-test does not show that the bias is statistically significant, proceed to the precision evaluation. If the method's bias is statistically significant, calculate the correction factor, CF using the following equation:

$$CF = \frac{1}{1 + \frac{B}{CS}} \quad \text{Eq. 301-5}$$

Multiply all analytical results by CF to obtain the final values.

6.1.6 Calculation of the relative standard deviation (precision).
Calculate the relative standard deviation as follows:

$$RSD = \left(\frac{SD}{S_m} \right) \times 100 \quad \text{Eq. 301-6}$$

where S_m is the measured mean of the isotopically labeled spiked samples.

6.2 Comparison with Validated Method.

Analyze the data for comparison with a validated method as outlined in Sections 6.2.1 through 6.2.2.5. Conduct the following to determine if a proposed method produces results equivalent to a validated method. Make all necessary bias corrections for the validated method, as appropriate. If the proposed method fails either test, the method results are unacceptable, and conclude that the proposed method is not as precise or accurate as the validated method. For some highly cyclic emission sources additional precision checks may be necessary. The analyst should consult with the Administrator if a highly cyclic emission source is suspected.

6.2.1 Paired sampling trains.

6.2.1.1 Precision. Determine the acceptance of the proposed method's variance with respect to the variability of the validated method results. If a significant difference is determined, the proposed method and the results are rejected. Proposed methods demonstrating F-values equal to or less than the critical value have acceptable precision.

6.2.1.2 Calculate the variance of the proposed method, S_p^2 , using the following equation:

$$S_p^2 = \frac{\sum d_i^2}{2n} \quad \text{Eq. 301-7}$$

where:

d_i = The difference between the validated method values and the proposed method values.

6.2.1.3 The F-test. Determine if the variance of the proposed method is significantly different from that of the validated method by calculating the F-value using the following equation:

$$F = \frac{S_p^2}{S_v^2} \quad \text{Eq. 301-8}$$

where: S_v^2 = the variability of the validated method that is furnished with it.

Compare the experimental F value with the critical value of F. The critical value is 1.0 when the procedure specified in section 5.2.1 for paired trains is followed. If the calculated F is greater than the critical value, the difference in precision is significant and the data and proposed method are unacceptable.

6.2.1.4 Bias analysis. Test the bias for statistical significance by calculating the t-statistic and determine if the mean of the differences between the proposed method and the validated method is significant at the 80-percent confidence level. Determine the bias (the mean of the differences, d_m) and the standard deviation, SD_d , of the differences. Calculate the standard deviation of the mean of the differences, SD_d , using Equation 301-2

where: d_i replaces S_i
 d_m replaces S_m .

Calculate the t-statistic using the following equation:

$$t = \frac{d_m}{\left(\frac{SD_d}{\sqrt{n}} \right)} \quad \text{Eq. 301-9}$$

where n is the total number of paired samples. For the procedure in Section 5.2.1, n equals nine. Compare the calculated t -statistic with the corresponding value from the table of the t -statistic. When nine runs are conducted, as specified in Section 5.2.1, the critical value of the t -statistic is 0.889 for eight degrees of freedom. If the calculated t -value is greater than the critical value the bias is statistically significant and the analyst should proceed to evaluate the correction factor.

6.2.1.5 Calculation of a correction factor. If the method's bias is statistically significant, calculate the correction factor, CF, as follows:

$$CF = \frac{1}{1 + \frac{d_m}{V_m}} \quad \text{Eq. 301-10}$$

where V_m is the mean of the validated method's values. Multiply all analytical results by CF to obtain the final values. The method results, and the method, are unacceptable if the correction factor is outside the range of 0.9 to 1.10.

6.2.2 Quadruplet sampling trains.

6.2.2.1 Acceptable precision for equivalency. Determine the acceptance of the proposed method's variance with respect to the variability of the validated method results. If a significant difference is determined the proposed method and the results are rejected.

6.2.2.2 Calculate the variance of the proposed method, S_p^2 , using Equation 301-7.

6.2.2.3 The F-test. Determine if the variance of the proposed method is significantly different from that of the validated method by calculating the F-value using Equation 301-8. Compare the experimental F value with the critical value of F. The critical value is 1.0 when the procedure specified in section 5.2.2 for quadruplet trains is followed. If the calculated F is greater than the critical value, the difference in precision is significant; the results and the proposed method are unacceptable.

6.2.2.4 Bias Analysis. Test the bias for statistical significance at the 80 percent confidence level by calculating the t-statistic. Determine the bias (mean of the differences between the proposed method and the validated method, d_i) and the standard deviation, SD_d , of the differences. Calculate the standard deviation of the mean of the differences, $SD_{\bar{d}}$, using Equation 301-7 where:

$$d_i = \frac{(V_{1i} + V_{2i})}{2} - \frac{(P_{1i} + P_{2i})}{2} \quad \text{Eq. 301-11}$$

and: V_{1i} = The first measured value of the validated method in the i th test sample;

P_{1i} = The first measured value of the proposed method in the i th test sample.

Calculate the t-statistic using Equation 301-9 where n is the total number of test sample differences (d_i). For the procedure in Section 5.2.2, n equals four. Compare the calculated t-statistic with the corresponding value from the table of the t-statistic and determine if the mean is significant at the 80-percent confidence level. When four runs are conducted, as specified in Section 5.2.2, the critical value of the t-statistic is 0.978 for three degrees of freedom.

If the calculated t-value is greater than the critical value the bias is statistically significant and the analyst should proceed to evaluate the correction factor.

6.2.2.4 Correction factor calculation. If the method's bias is statistically significant, calculate the correction factor, CF, using Equation 301-10. Multiply all analytical results by CF to obtain the final values. The method results, and the method, are unacceptable if the correction factor is outside the range of 0.9 to 1.10.

6.3 Analyte Spiking. Conduct sampling as described in Section 5.3, and analyze the data for analyte spike testing as outlined in Sections 6.3.1 through 6.3.6.

6.3.1 Bias. Calculate the numerical value of the bias using the results from the analysis of the spiked field samples, the unspiked field samples, and the calculated value of the spike:

$$B = S_m - M_m - CS \quad \text{Eq. 301-12}$$

where

B = bias at the spike level
 S_m = mean of the spiked samples
 M_m = mean of the unspiked samples
 CS = calculated value of the spiked level.

6.3.2 Determine the precision of the spiked samples. Calculate the difference, d_i, between the pairs of the spiked proposed method measurements for each sampling run. Determine the standard deviation (SD_s) of the spiked values using the following equation:

$$SD_s = \sqrt{\frac{\sum d_i^2}{2n}} \quad \text{Eq. 301-13}$$

where: n = the number of samples.

6.3.3 Calculate the standard deviation of the mean using Equation 301-3.

6.3.4 Test the bias for statistical significance by calculating the t-statistic using Equation 301-4 and comparing it with the critical value of the two-sided t-distribution at the 95-percent confidence level and n-1 degrees of freedom. This critical value is 1.80 for the eleven degrees of freedom.

6.3.5 Calculation of a correction factor. If the t-test does not show that the bias is statistically significant use all analytical results without correction. If the method's bias is statistically significant, calculate the correction factor using Equation 301-5. Multiply all analytical results by CF to obtain the final values.

6.3.6 Determination of precision of the unspiked samples. Calculate the standard deviation of the unspiked values using Equation 301-13 and the relative standard deviation of the proposed unspiked method using Equation 301-6.

7. Ruggedness Testing (Optional).

7.1 Laboratory Evaluation.

7.1.1 Ruggedness testing is a useful and cost-effective laboratory study to determine the sensitivity of a method to certain parameters such as sample collection rate, interferant concentration, collecting medium temperature, or sample recovery temperature. This Section generally discusses the principle of the ruggedness test. A more detailed description is presented in citation 10 of Section 13.0.

7.1.2 In a ruggedness test, several variables are changed simultaneously rather than one variable at a time. This reduces the number of experiments required to evaluate the effect of a variable. For example, the effect of seven variables can be determined in eight experiments rather than 128 (W.J. Youden, Statistical Manual of the Association of Official Analytical Chemists, Association of Official Analytical Chemists, Washington, DC, 1975, pp. 33-36).

7.1.3 Data from ruggedness tests are helpful in extending the applicability of a test method to different source concentrations or source categories.

8. Procedure for Including Sample Stability in Bias and Precision Evaluations (Optional).

8.1 Sample Stability.

8.1.1 The test method being evaluated must include procedures for sample storage and the time within which the collected samples shall be analyzed.

8.1.2 This Section discusses the procedures for including the effect of storage time in bias and precision evaluations. The evaluation may be deleted if the test method specifies a time for sample storage.

8.2 Stability Test Design. The following procedures should be conducted to identify the effect of storage times on analyte samples. Store the samples according to the procedure specified in the test method.

8.2.1 For sample container (bag or canister) and impinger sampling systems set up in regards to Section 5.1 and 5.3, analyze six of the samples at the minimum storage time. Then analyze the same six samples at the maximum storage time.

8.2.2 For sorbent sampling systems set up in regards to Section 5.1 and 5.3 that require liquid extraction, extract six of the samples at the minimum storage time and extract six other samples at the maximum storage time. Analyze an aliquot of the first six extracts at both the minimum and maximum storage times. This will provide some freedom to analyze extract storage impacts.

8.2.3 For sorbent sampling systems set up in reference to Section 5.1 and 5.3 that require thermal desorption, analyze six samples at the minimum storage time. Analyze another set of six samples at the maximum storage time.

8.2.4 For systems set up in accordance with Section 5.2, the number of samples analyzed at the minimum and maximum storage times shall be half those collected (8 or 9).

9. Procedure for Determination of Practical Limit of Quantitation (Optional).

9.1 Practical Limit of Quantitation.

9.1.1 The practical limit of quantitation (PLQ) is the lowest level above which quantitative results may be obtained with an acceptable degree of confidence. For this protocol, the PLQ is defined as 10 times the standard deviation, s_0 , at the blank level. This PLQ corresponds to an uncertainty of ± 30 percent at the 99-percent confidence level.

9.1.2 The PLQ will be used to establish the lower limit of the test method.

9.2 Procedure I for Estimating s_0 . This procedure is acceptable if the estimated PLQ is no more than twice the calculated PLQ. If the PLQ is greater than twice the calculated PLQ use Procedure II.

9.2.1 Estimate the PLQ and prepare a test standard at this level. The test standard could consist of a dilution of the reference material described in Section 4.0.

9.2.2 Using the normal sampling and analytical procedures for the method, sample and analyze this standard at least seven times in the laboratory.

9.2.3 Calculate the standard deviation, s_0 , of the measured values.

9.2.4 Calculate the PLQ as 10 times s_0 .

9.3 Procedure II for Estimating s_0 . This procedure is to be used if the estimated PLQ is more than twice the calculated PLQ.

9.3.1 Prepare two additional standards at concentration levels lower than the standard used in Procedure I.

9.3.2 Sample and analyze each of these standards at least seven times.

9.3.3 Calculate the standard deviation for each concentration level.

9.3.4 Plot the standard deviations of the three test standards as a function of the standard concentrations.

9.3.5 Draw a best-fit straight line through the data points and extrapolate to zero concentration. The standard deviation at zero concentration is s_0 .

9.3.6 Calculate the PLQ as 10 times s_0 .

10.0 Field Validation Report Requirements. The field validation report shall include a discussion of the regulatory objectives for the testing which describe the reasons for the test, applicable emission limits, and a description of the source. In addition, validation results shall include:

10.1 Summary of the results and calculations shown in Section 6.0.

10.2 Reference material certification and value(s).

10.3 Performance audit results or letter from the reviewing authority stating the audit material is currently not available.

10.4 Laboratory demonstration of the quality of the spiking system.

10.5 Discussion of laboratory evaluations.

10.6 Discussion of field sampling.

10.7 Discussion of sample preparations and analysis.

10.8 Storage times of samples (and extracts, if applicable).

10.9 Reasons for eliminating any results.

11. Followup Testing.

The correction factor calculated in Section 6.0 shall be used to adjust the sample concentrations in all followup tests conducted at the same source. These tests shall consist of at least three sample collections, and the average shall be used to determine the emission rate. The number of samples

per sample collection period (run) of the method shall be as follows, depending on the validated method precision level:

11.1 Validated relative standard deviation (hRSD) $\leq \pm 15$ Percent. One sample per run or three total samples.

11.2 Validated RSD $\leq \pm 30$ Percent. Two samples per run or six total samples.

11.3 Validated RSD $\leq \pm 50$ Percent. Three samples per run or nine total samples.

11.4 Equivalent method. One sample per run or three total samples.

12. Procedure for Obtaining a Waiver.

12.1 Waivers. These procedures may be waived or a less rigorous protocol may be granted for site-specific applications. The following are three example situations for which a waiver may be considered.

12.1.1 "Similar" sources. If the test method has been validated previously at a "similar" source, the procedures may be waived provided the requester can demonstrate to the satisfaction of the Administrator that the emission characteristics are "similar." The methods's applicability to the "similar" source may be demonstrated by conducting a ruggedness test as described in Section 6.0.

12.1.2 "Documented " methods. In some cases, bias and precision may have been documented through laboratory tests or protocols different from this method. If the analyst can demonstrate to the satisfaction of the Administrator that the bias and precision apply to a particular application, the Administrator may waive these procedures or parts of the procedures.

12.1.3 "Conditional" test methods. When the method has been demonstrated to be valid at several sources, the analyst may seek a "conditional" method

designation from the Administrator. "Conditional" method status provides an automatic waiver from the procedures provided the test method is used within the stated applicability.

12.2 Application for Waiver. In general, the requester shall provide a thorough description of the test method, the intended application, and results of any validation or other supporting documents. Because of the many potential situations in which the Administrator may grant a waiver, it is neither possible nor desirable to prescribe the exact criteria for a waiver. At a minimum, the requester is responsible for providing the following.

12.2.1 A clearly written test method, preferably in the format of 40 CFR 60, Appendix A Reference Methods. The method must include an applicability statement, concentration range, precision, bias (accuracy), and time in which samples must be analyzed.

12.2.2.2 Summaries (see Section 10.0) of previous validation tests or other supporting documents. If a different procedure from that described in this method was used, the requester shall provide appropriate documents substantiating (to the satisfaction of the Administrator) the bias and precision values.

12.2.2.3 Results of testing conducted with respect to Sections 7.0, 8.0, and 9.0.

12.2.3 Discussion of the applicability statement and arguments for approval of the waiver. This discussion should address as applicable the following: Applicable regulation, emission standards, effluent characteristics, and process operations.

12.3 Requests for Waiver. Each request shall be in writing and signed by the analyst. Submit requests to the Director, OAQPS, Technical Support

Division, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711.

13. Bibliography.

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13.10 U.S. Environmental Protection Agency. 1991. *Protocol for The Field Validation of Emission Concentrations From Stationary Sources*. Publication No. 450/4-90-015. Available from the U.S. EPA, Emission Measurement Technical Information Center, Technical Support Division (MD-14), Research Triangle Park, NC 27711.

13.11 Youdon, W.J. *Statistical Manual of the Association of Official Analytical Chemists*, Association of Official Analytical Chemists, Washington, DC, 1975, pp. 33-36).

Appendix B. Sources Defined for Early Reduction Provisions

<u>Source</u>	<u>Location of Definition</u>
1. Organic Equipment Leaks at Chemical Plants	56 FR 9315, Announcement of Negotiated Rulemaking