The Impact of the 1990 Clean Air Act Amendments on Philadelphia's Regulation to Control Emissions of Hazardous Air Pollutants

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THE IMPACT OF THE 1990 CLEAN AIR ACT AMENDMENTS ON PHILADELPHIA'S REGULATIONS TO CONTROL EMISSIONS OF HAZARDOUS AIR POLLUTANTS

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I. INTRODUCTION

In 1981, due to limited federal legislation, the Philadelphia Department of Public Health enacted regulations to control hazardous air pollutants in the City of Philadelphia.1 However, Con-

1. For discussion of Philadelphia's regulations, see infra notes 15-17, 22-38 and accompanying text.
gress recently promulgated the 1990 Amendments\(^2\) to the Clean Air Act of 1970 (CAA),\(^3\) which have significantly changed the United States Environmental Protection Agency's (EPA) role in controlling emissions of hazardous air pollutants.\(^4\) The 1990 Amendments require EPA to promulgate regulations for 189 hazardous air pollutants,\(^5\) and give EPA broad authority to carry out this function.\(^6\) As a result of the 1990 Amendments, Philadelphia's regulations are now subject to EPA's promulgations, and therefore, may require substantial revision in order to comply with federal law.

II. BACKGROUND

Prior to the 1990 Amendments, section 112 of CAA required the EPA Administrator to identify hazardous substances and to regulate them by setting national emission standards within "an ample margin of safety to protect public health . . . ."\(^7\) This language made it impossible for EPA to exercise its authority within the plain meaning of section 112. Since "hazardous" air pollutants are linked to serious and often fatal health conditions, it was not possible to set standards that would prevent adverse effects "with an ample margin of safety to protect public health."\(^8\) Congress realized that standards set in compliance with the language of section 112 could result in forced shutdowns of many American industries because there is no safe level of exposure to certain


\(^4\) For discussion of changes made to § 112 of the CAA, see infra notes 39-75 and accompanying text.

\(^5\) For discussion of substances subject to control, see infra notes 47-53 and accompanying text.

\(^6\) For discussion of EPA's authority to use technological and economic criteria in establishing emission standards under the 1990 Amendments, see infra notes 54-57 and accompanying text.


\(^8\) The legislative history of the 1990 Amendments indicated that the Senate was concerned that the original standard was too stringent and therefore in need of revision: "The law has worked poorly. . . . One reason the law has worked poorly is the standard of protection required. 'An ample margin of safety' has been interpreted by many to mean zero exposure to carcinogens, because any amount of exposure may cause a cancer." S. REP. No. 228, 101st Cong., 2d Sess. 6 (1990), reprinted in 1990 U.S.C.C.A.N. 3385, 3513 [hereinafter S. REP. No. 228].
hazardous air pollutants, such as carcinogens. As a result, EPA has been reluctant to exercise its regulatory authority. To date, EPA has promulgated national emission standards for hazardous air pollutants (NESHAPs) for only seven substances.

Eventually, EPA took a bold step by setting standards for the emission of vinyl chloride based on the most stringent level of controls that were technologically and economically feasible, even though adverse health effects could not be reduced to zero. However, in 1987 this action was challenged in National Resources Defense Council, Inc. v. EPA. The Court of Appeals for the D.C. Circuit first upheld EPA’s position, but upon rehearing the case en banc, reversed and held that emission standards cannot be based on technological or economic criteria. One critic noted that by denying EPA the authority to use technological or economic criteria, the court’s “decision took a program which was moving at a glacial pace and brought it to a total halt.”

During the years when EPA was inactive in setting emission standards, several state and local agencies responded to the problem of hazardous air pollution by establishing their own regulations to “fill in the gaps” where EPA was silent. One local agency is the Philadelphia Department of Public Health (the Department). In 1981, the Department’s Air Pollution Control

9. Id. The Senate Report noted that “EPA has not been willing to write standards so stringent because they would shutdown major segments of American industry.” Id.

10. Id. at 3516. Since enactment of CAA, EPA set emission standards for only seven hazardous air pollutants: arsenic, asbestos, benzene, beryllium, mercury, radionuclides, and vinyl chloride. EPA listed coke oven emissions also, but never promulgated emissions standards. See 40 C.F.R. §§ 61.01-.358 (1981).

11. See National Resources Defense Council, Inc. v. EPA, 824 F.2d 1146 (D.C. Cir. 1987) (en banc). For further discussion, see infra notes 12-14 and accompanying text.

12. 824 F.2d at 1147-49.

13. Id. at 1166. The court denied EPA’s use of technological and economic criteria in setting emission standards and held “only that the Administrator cannot consider cost and technological feasibility in determining what is ‘safe.’ This determination must be based solely upon the risk to health.” Id.


15. EPA’s authority to establish emission standards for all hazardous air pollutants and its actual promulgation of only seven standards has been referred to as a “serious gap in the coverage of the air pollution protection program.” QUARLES, supra note 14, at 31.

16. S. REP. No. 228, supra note 8, at 6, reprinted in 1990 U.S.C.C.A.N. at 3516. It was noted that “[w]hile EPA has listed only eight substances for regulation, a handful of States with active air toxics programs developed on their own have set standards for 708 substances.” Id.
Board promulgated Air Management Regulation VI to control emissions of toxic air contaminants.\footnote{17. Philadelphia, Pa., Department of Public Health Air Pollution Control Board, Air Management Regulation VI, Control of Emissions of Toxic Air Contaminants (1981) [hereinafter Regulation VI].}

State and local regulation dominated controls over hazardous air pollutants for several years.\footnote{18. For discussion of state and local regulation, see supra notes 15-16 and accompanying text.} However, the 1980's brought a shift in attitude. Congress apparently realized that because EPA's "hands were tied," there was a lack of national regulation which resulted in unsafe levels of hazardous air pollutants throughout the United States.\footnote{19. S. REP. No. 228, supra note 8, at 6, reprinted in 1990 U.S.C.C.A.N. at 3513-14. Congress discussed a 1989 study performed by EPA which estimated a "national annual cancer incidence of approximately 2700 cases as the result of exposure to some 15-40 toxic air pollutants." \textit{Id.} at 3513. Congress further stated that "[t]his would mean that 190,000 of the Americans now alive (2700 annually x 70 year life span) might be expected to contract cancer from exposure to air toxics." \textit{Id.} at 3513-14. See supra note 8 for further discussion of Congress' recent realization that pre-1990 emissions regulation standards were too stringent. \textit{See also} QUARLES supra note 14, at 33. The authors' discussion of "The Shifting Debate" outlines Congress's change in attitude over the last two decades. They noted that "[d]uring the 1980s the debate over appropriate controls to regulate air toxics evolved toward a consensus on shifting the focus of regulation from a risk-based approach to a technology-based approach." \textit{Id.} The authors attribute this shift partially to the acceptance by health advocates and industry leaders that the existing approach was ineffective and that maximum efforts to reduce health risks should be provided to the public, even if zero risk could not be assured. \textit{Id.}
}

In response, section 112 of the CAA was amended in 1990\footnote{20. For citation to the 1990 Amendments, see supra note 2.} to provide EPA with the authority to regulate sources of hazardous air pollutants based on technological and economic standards as well as on health-based criteria.\footnote{21. The 1990 Amendments provide in part: Emissions standards promulgated under this subsection and applicable to new or existing sources of hazardous air pollutants shall require the maximum degree of reduction in emissions of the hazardous air pollutants subject to this section ... that the Administrator, taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements, determines is achievable for new or existing sources in the category or subcategory to which such emission standard applies, through application of measures, processes, methods, systems or techniques ... .}
in Philadelphia pursuant to the 1990 Amendments by (1) examining regulations currently enacted in Philadelphia; (2) identifying how effective Philadelphia regulations have been in controlling hazardous air pollutants; (3) determining the effect of the 1990 Amendments on Philadelphia's regulations; and (4) identifying any problems Philadelphia officials anticipate in complying with the 1990 Amendments.

III. Regulation of Hazardous Air Pollutants by the Philadelphia Department of Health

In 1981, the City of Philadelphia approved Air Management Regulation VI, wherein the Air Pollution Control Board of the Department of Public Health (the Board) set forth guidelines to control emissions of toxic air contaminants.22 The Board established a list of ninety-nine hazardous air pollutants which are subject to the control standards established in Regulation VI.23 Philadelphia's regulations were modeled after EPA's pre-1990 guidelines24 and therefore, were based on health-oriented criteria.25 In section III of Regulation VI, the approval or denial of a facility to emit toxic air contaminants into the atmosphere is based on the Department of Health's evaluation of the "quantity, concentration and duration of the emission relative to the latest available information regarding health effects . . . ."26 The list of pollutants was developed "with an eye toward chronic low-level exposure in the community,"27 and identified substances which, if continually exposed to the public, were known to cause cancer.28 The Board appointed an Ad Hoc Advisory Committee for Toxic Air Contaminants (the Committee), consisting of health professionals and other experts, to recommend ambient air quality guidelines for each of these substances.29 (The com-

22. For discussion of Philadelphia's guidelines, see supra note 17 and accompanying text.
24. Telephone Interview with Mr. Robert Ostrowski, Acting Director, Air Management Services (Sept. 19, 1991) [hereinafter Mr. Robert Ostrowski].
25. For a discussion of criteria used by EPA in establishing emission standards prior to enactment of the 1990 Amendments, see supra notes 7-10 and accompanying text.
27. AIR MANAGEMENT SERVS. AND THE AD HOC ADVISORY COMM. FOR TOXIC AIR CONTAMINANTS, REPORT ON RECOMMENDED AMBIENT AIR QUALITY GUIDELINES FOR TOXIC AIR CONTAMINANTS 5 (1983) [hereinafter GUIDELINES].
28. Id.
29. Id. at 7.
The committee was not able to recommend air quality standards because this would require extensive measures for which the City did not have ample resources.) 30 The committee recommended emission limits for each toxic substance based on all existing information, including, but not limited to, threshold limit values established by various federal regulatory agencies. 31 Actual emissions of any of the identified substances were compared to the guidelines to evaluate potential health hazards to the community and to determine if emissions must be reduced or restrained. 32

The Department later adopted an "annual guideline approach" whereby the Committee was to assess acceptable levels of emissions for each toxic pollutant in terms of the general population's exposure to each substance for a one year period. 33

The intent of this approach was to establish open-ended guidelines. Any Committee member obtaining new information about a regulated substance was free to petition the Department to reevaluate the acceptable emission level under the existing guidelines. 34 Despite the Department's sincere effort, the "annual guideline approach" had to be abandoned between 1985 and 1986 for several reasons. 35 For instance, by the time guidelines were established, new information became available. As a result, the demand on uncompensated Committee members became very great and Philadelphia's financial condition made it infeasible to hire additional committee members. 36 In the meantime, Department officials became aware of the changes Congress intended to make to section 112 of CAA. As a result of these factors, they felt it was not worthwhile to continue their efforts to update the guidelines under the "annual guideline approach." 37 Thus, the Department decided to maintain the guidelines established under Regulation VI until the 1990

30. Id.
31. Telephone Interview with Mr. Clemens Lazenka, Director of Technical Services, Air Management Services (Aug. 31, 1992) [hereinafter Mr. Clemens Lazenka]. Federal agencies such as OSHA established threshold emission levels for some of the same toxic substances regulated by the Department. The Committee considered these threshold levels in establishing guidelines, but did not necessarily adopt them. Rather, the Committee set the guidelines based on what it "thought was best" based on all the information available to it at the time. Id.
32. GUIDELINES, supra note 27, at 7.
33. Telephone Interview with Mr. Robert Ostrowski (Sept. 19, 1991).
34. Telephone Interview with Mr. Clemens Lazenka (Aug. 31, 1992).
35. Id.
36. Id.
37. Telephone Interview with Mr. Robert Ostrowski (Sept. 19, 1991).
Amendments were enacted. 38

IV. THE EFFECTIVENESS OF PHILADELPHIA'S REGULATIONS UNDER REGULATION VI

Although compliance with EPA regulations is mandatory, Philadelphia's actual need for federal intervention depends on the effectiveness of current regulations in controlling emissions of hazardous air pollutants in the City. However, despite Philadelphia's efforts to measure the effectiveness of its regulations, funding problems made it impossible for the City to carry out its well-devised and ambitious plans.

In addition to establishing guidelines for acceptable emission levels of toxic substances, Regulation VI established notice requirements as one way to monitor reductions in emissions of these substances. Any facility emitting a regulated toxic substance as of the effective date of Regulation VI or thereafter is required to file written notice with the Department. 39 The detailed notice required by Regulation VI includes a list of the toxic air contaminants emitted, the areas or operations within the facility from which the substances are emitted, and an estimate of the maximum hourly, daily, and annual emission rates of each substance. 40 Compliance with notice regulations by affected facilities would help the Department to accurately determine emission levels and thus any reduction in such levels over a period of time.

For a few years, the Department was able to audit facilities to determine compliance with notice regulations. However, as personnel left and the City budget was cut back, it became impossible for the Department to continue this effort. 41

Philadelphia's lack of funding not only resulted in abandonment of the "annual guideline approach," as previously noted, but it has made it difficult for the Department to continually monitor the effectiveness of existing Regulation VI. Federal intervention may be necessary for the Department to determine if hazardous air pollutants are actually being controlled. EPA's approach of using the best available technology may incorporate an equipment, licensing, and permit structure which is also effective in monitoring compliance by affected facilities as well as reductions in emissions of hazardous substances. Additionally, facili-

38. Id.
41. Telephone Interview with Mr. Clemens Lazenka (Aug. 31, 1992).
ties may be more motivated to comply with federal than state regulations, since uniform legislation will destroy any previous advantage of operating in a particular state.

V. IMPACT OF THE 1990 AMENDMENTS ON PHILADELPHIA'S EFFORTS TO REGULATE HAZARDOUS AIR POLLUTANTS

The 1990 Amendments have significantly altered section 112 of CAA, which authorizes EPA to set emissions standards for hazardous air pollutants. 42

Two major revisions have been made in areas previously regulated under the 1970 Clean Air Act: (1) the number of hazardous substances subject to regulation 43 and (2) the criteria to be used in establishing emission standards. 44 The 1990 Amendments have also introduced several new provisions to section 112, including (1) a strict compliance schedule 45 and (2) a requirement to devise risk management plans to prevent the release of extremely hazardous pollutants. 46

Philadelphia's regulations may be significantly affected by the major changes to section 112 of CAA. Since EPA will promulgate emission standards periodically over the next ten years, Philadelphia officials cannot fully ascertain the exact impact of the 1990 Amendments on their current regulations. However, the impact in several areas is fairly predictable, as discussed below.

A. Substances Subject to Regulation

One significant revision made by the 1990 Amendments to section 112 is the list of pollutants itself. Congress established a list of 189 hazardous air pollutants to be regulated and revised as necessary by EPA. 47 Prior to the 1990 Amendments, EPA listed only eight and promulgated regulations for only seven substances. 48

One obvious effect of the 1990 Amendments on Philadelp-
Philadelphia's current law is the number of pollutants subject to control. The 1990 Amendments identify ninety more substances than Regulation VI lists as hazardous air pollutants. Therefore, regardless of whether Philadelphia's standards for the ninety-nine substances currently regulated are adequate to meet EPA standards, it is obvious that there will be a significant increase in the number of substances to be controlled.

The 1990 Amendments require EPA to divide this list of substances into categories and subcategories of industries which emit large quantities of each air pollutant and publish the list for public comment. Any industrial facility which emits "[ten] tons per year of any single air toxic or [twenty-five] tons per year of any combination of air toxics" will be identified as a "major source." When the list is final, EPA must establish emission standards for each major source in every category.

In contrast to these standards, the guidelines in Philadelphia recommend threshold quantities for each individual pollutant but make no special provision for sources which emit a combination of hazardous toxics. As a result, industrial facilities in Philadelphia which are currently in compliance with Regulation VI may fall into EPA's definition of a "major source" and will be subject to new regulations.

Under the 1990 Amendments, EPA is required to set emission standards to control many more hazardous air pollutants than are currently regulated. As discussed below, Congress, to facilitate EPA in this requirement, also revised the criteria which can be considered in setting emission standards.

B. Criteria for Establishing Emission Standards

The most significant change made by the 1990 Amendments is a grant of authority to EPA to set emission standards based on

49. CAAA § 112(c)(1), 42 U.S.C.S. § 7412(c)(1).
52. Regulation VI § III(C)(2) (1981). Philadelphia's regulations mandate that "[t]he Department's determination shall be based upon an evaluation of the quantity, concentration and duration of the emission relative to the latest available information regarding health effects... associated with the air contaminant..." Id. (emphasis added). Further, this author interviewed Mr. Robert Ostrowski, who confirmed that Philadelphia's regulations are established on a substance by substance basis without regard to the aggregate effect of emissions from individual sources. Telephone Interview with Mr. Robert Ostrowski (Sept. 17, 1991).
53. For a list of EPA regulated substances, see supra note 10.
technological and economic criteria, rather than on purely health-based standards.\(^\text{54}\) Section 112 of the 1990 Amendments expressly requires emission standards to be set to attain the "maximum degree of reduction in emissions of the hazardous air pollutants . . . that the Administrator, taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements, determines is achievable . . . ."\(^\text{55}\) This language solves EPA's former problem in setting emission standards to comply with the "ample margin of safety to protect public health" requirement of CAA.\(^\text{56}\) The authority to set standards based on this criteria would be "likely to reduce EPA's reluctance to promulgate emission standards because technology-based standards are more workable than the strict health-based statutory tests in section 112"\(^\text{57}\) of CAA.

Although the 1990 Amendments do not preempt state and local regulations, they do require that state and local emission standards be at least as stringent as those established by EPA.\(^\text{58}\) Therefore, another possible impact on Philadelphia's current law is that Regulation VI may not be sufficient to meet the "at least as stringent" requirement.

As previously noted, Philadelphia's current regulations are based solely on health-oriented criteria. EPA found a purely health oriented standard of control to be so stringent that it was difficult to regulate more than a handful of hazardous air pollutants.\(^\text{59}\)

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\(^{54}\) CAAA § 112(d)(2), 42 U.S.C.S. § 7412(d)(2).

\(^{55}\) Id.

\(^{56}\) For a discussion of CAA's requirement of an "ample margin of safety," see supra notes 7-8 and accompanying text.

\(^{57}\) Mary Jean Sawey et al., *The Potential Health Benefits of Controlling Hazardous Air Pollutants*, 1 VILL. ENVTL. L.J. 473, 477 (1990). The authors examined the 1990 Amendments during proposal stages and pointed out this benefit of EPA's authority to use economic and technological criteria in setting emission standards. *Id.* at 473.

\(^{58}\) CAAA § 112(l)(1), 42 U.S.C.S. § 7412(l)(1). The Amendments provide that ":[e]ach State may develop and submit to the Administrator for approval a program for the implementation and enforcement . . . of emission standards . . . ." *Id.* If such a program is submitted it "shall not include authority to set standards less stringent than those promulgated by the Administrator under this Act." *Id.* Further, "any [local] agency implementing an approved program may take any action authorized to be taken by a State under this section." CAAA § 112(l)(8), 42 U.S.C.S. § 7412(l)(8).

\(^{59}\) For a discussion of EPA's problems with regulating hazardous substances based solely on health-oriented criteria, see supra notes 8-10 and accompanying text.
Since local regulations must be "at least as stringent" as those EPA will establish and since Philadelphia's current regulations are based on criteria that EPA itself thought very stringent, one of two outcomes is possible: (1) Philadelphia's standards of emission control for listed substances may already be adequate to meet the standards EPA is to promulgate, whereby the most significant change for Philadelphia will be to increase its list of pollutants and identify "major sources" according to EPA guidelines; or (2) the maximum achievable control standards which EPA will promulgate based on a combination of technological, economical, and health criteria will be even more stringent than Philadelphia's purely health-based standards, in which case Regulation VI will be subject to complete revision.

It is difficult to predict which of these outcomes is more likely. An examination of the standards set by Regulation VI for the seven substances already regulated by EPA indicates that Philadelphia officials have adopted and enforced NESHAPs and have not independently assessed acceptable levels of emissions for these substances. If independent emission levels were established, and if such levels were, in fact, more stringent than those established by EPA, it would have been fair to predict that standards already promulgated in Philadelphia for other substances will meet the standards EPA is to establish. However, absent this fact, an accurate prediction is not possible.

C. Schedule for Implementation of New Emission Standards

The 1990 Amendments require EPA to regulate the listed hazardous air pollutants according to a schedule which covers a ten year time period. This schedule is broken down so that emission standards will be promulgated periodically for a certain percentage of the listed pollutants. According to the schedule, emission standards for at least forty categories and subcategories should have been promulgated by November 15, 1992. Stan-

60. See, e.g., 40 C.F.R. § 61.32 (1981). EPA's standard for beryllium requires that emissions do not exceed 0.01 ug/m³ averaged over a 30 day period. In comparison, Philadelphia's Regulation VI bases the standard for beryllium on the same criteria used by EPA. Regulation VI app. (1981). Further, Mr. Robert Ostrowski confirmed that whenever EPA establishes NESHAPs, city officials adopt them and do not perform independent tests to access whether standards should be even stricter in Philadelphia than those promulgated. Telephone Interview with Mr. Robert Ostrowski (Sept. 19, 1991).


63. Id. As of this publication, the November 15, 1992 deadline has passed,
dards for additional pollutants will be promulgated periodically thereafter as provided in the 1990 Amendments.64

The 1990 Amendments provide a compliance schedule which requires EPA standards to be effective immediately for new or reconstructed sources of hazardous air pollution,65 but provide special rules for existing sources.66

State and local pollution control agencies may submit an implementation plan to EPA for approval.67 The EPA Administrator shall approve or disapprove such program based on whether or not it is adequate to "assure compliance by all sources within the state [or locality] with each applicable standard, regulation or requirement established by the Administrator under [section 112]."68

Philadelphia officials must be prepared to design an implementation plan so that EPA regulations can be complied with by industrial facilities and enforced by the Department as they are promulgated periodically over the next ten years.

D. Accidental Releases of Extremely Hazardous Air Pollutants

The 1990 Amendments include a provision which requires EPA to publish a list of at least one hundred extremely hazardous air

and EPA has not yet set standards for the 40 hazardous substances as required by the Amendments. However, on November 24, 1992, EPA representatives informed the author that the delay is due to the sophisticated technology now being used to set emission standards, and despite EPA’s technical violation of the Amendments, Congress’s intent is being adequately fulfilled. On October 23, 1992, EPA signed a proposal for regulation of Hazardous Organic NESHAPs (HON), which is currently due to be published in the Federal Register. EPA Representatives explained that although this proposal will appear numerically as one regulation and not the required 40, the standard proposed for HON actually includes many processes, each of which could pass the Amendments’ definition of a hazardous pollutant subcategory. In effect, many more than 40 pollutants will be included in the first proposed regulation, thereby adequately meeting Congress’s intention. Telephone Interview with Mr. I. Millner and Ms. K. Deitzel, Philadelphia EPA (Nov. 24, 1992).

64. CAAA § 112(e)(1)(A), 42 U.S.C.S. § 7412(e)(1)(A).
65. CAAA § 112(i)(1), 42 U.S.C.S. § 7412(i)(1). This section provides that "[a]fter the effective date of any emission standard . . . no person may construct any new major source or reconstruct any existing major source subject to such emission standard . . . unless the Administrator . . . determines that such source . . . will comply with the standard, regulation or limitation." Id.
66. CAAA § 112(i)(3)(A), 42 U.S.C.S. § 7412(i)(3)(A). Where there is an existing source, "the Administrator shall establish a compliance date or dates for each category or subcategory of existing sources, which shall provide for compliance as expeditiously as practicable, but in no event later than [three] years after the effective date of such standard . . . ." Id.
pollutants which, if accidentally released, "pose the greatest risk of causing death, injury, or serious adverse effects to human health or the environment . . . ." Further, EPA must determine a threshold amount for each listed substance.\textsuperscript{70} Within three years after enactment of the 1990 Amendments, EPA must promulgate regulations that require stationary sources where any listed substance is present in quantities that exceed the threshold amount to implement a risk management plan.\textsuperscript{71} The risk management plan must provide for the prevention and detection of accidental releases of the listed substances into the air. Regulations under such a plan must address the "use, operation, repair, replacement, and maintenance of equipment to monitor, detect, inspect, and control such releases . . . ."\textsuperscript{72}

Philadelphia officials may have to establish regulations to ensure that operators of city facilities will comply with the requirement of risk management plans for extremely hazardous pollutants. The language of section 112(r) of the 1990 Amendments, which discusses risk management plans for extremely hazardous pollutants, addresses individual facility owners and operators.\textsuperscript{73} However section 112(l), which gives state and local agencies the ability to submit, for approval, a program for implementation and enforcement of emission standards, also applies to "requirements for the prevention and mitigation of accidental releases pursuant to subsection (r)."\textsuperscript{74} Therefore, it is not clear whether each affected industrial facility is responsible for implementing a risk management plan or if Philadelphia officials must implement a plan and establish regulations to ensure compliance by such facilities.

\textsuperscript{69} CAAA § 112(r)(3), 42 U.S.C.S. § 7412(r)(3).

\textsuperscript{70} CAAA § 112(r)(5), 42 U.S.C.S. § 7412(r)(5). The 1990 Amendments provide that "the Administrator shall establish by rule, a threshold quantity for the substance, taking into account the toxicity, reactivity, volatility, dispersibility, combustibility, or flammability of the substance and the amount of the substance . . . ." Id.


\textsuperscript{72} UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, IMPLEMENTATION STRATEGY FOR THE CLEAN AIR ACT AMENDMENTS OF 1990, at 33-34 (1991) [hereinafter EPA IMPLEMENTATION STRATEGY].

\textsuperscript{73} In several subsections of § 112(r), Congress refers to owners and operators of stationary sources. See, e.g., CAAA § 112(r)(7)(B)(ii), 42 U.S.C.S. § 7412(r)(7)(B)(ii). This section provides that "[t]he regulations under this subparagraph shall require the owner or operator of stationary sources at which a regulated substance is present . . . to prepare and implement a risk management plan . . . ." Id.

\textsuperscript{74} CAAA § 112(l)(1), 42 U.S.C.S. § 7412(l)(1).
This ambiguity will most likely be resolved when EPA publishes regulations and guidelines, which are required no later than November 15, 1993. In the meantime, however, city officials can only predict what their role will be. Therefore, it is possible that Philadelphia officials may be required to take on the additional task of implementing risk management plans pursuant to the 1990 Amendments.

VI. PHILADELPHIA'S REACTION TO THE 1990 AMENDMENTS

A. Implementation of New Emission Standards

The Philadelphia Department of Health must be prepared to implement EPA regulations as they are promulgated over the ten year period set forth in the 1990 Amendments. City officials will have to reevaluate the adequacy of Regulation VI to ensure compliance with implementation and enforcement requirements of the 1990 Amendments.

1. Financial Considerations

The 1990 Amendments authorize the EPA Administrator to establish emission standards which can be achieved through changes in process, design, equipment, and work practice at affected facilities. Depending on the amount of change necessary, owners and operators of industrial facilities may face significant expenditures to comply with the 1990 Amendments.

The Acting Director of Air Management Services (Director), is confident that most affected facilities will have the “where-
withal" to implement any required changes. Moreover, the EPA Administrator is authorized to financially assist state or local governments in developing and implementing programs for enforcing emission standards in accordance with the 1990 Amendments. In light of Philadelphia's inability to adequately fund the Department, EPA's placement of the financial burden on affected facilities as well as EPA's willingness to assist state and local agencies, explain the Director's confidence. However, from a practical standpoint, it is not as easy to predict the effect on facilities, as the early 1990's have proven to be economically unstable for many American businesses. The burden of additional operating costs may bankrupt financially unstable facilities. Therefore, it remains to be seen if Philadelphia facilities will be able to meet section 112 requirements without financial casualties.

2. Technological Considerations

Philadelphia's Director pointed out that the technological-based emission standards are expected to be "very tight" and that the 1990 Amendments "do not leave much leeway" for owners of affected facilities to determine how to best comply with EPA regulations. Since the 1990 Amendments are not open to state or local discretion, industrial facilities identified as "major sources" or "area sources" under section 112 must "comply or else."

The Director has predicted that some "moderation and mediation" will be necessary in the development of the new standards and is hopeful that EPA has recognized this need. EPA is planning to conduct discussions with all interested parties, including state and local governments to "supplement and enhance standard procedures." One method EPA may use to accomplish this interaction is the use of a "formal negotiated rulemaking procedure," commonly referred to as "reg neg." Under this process, a committee composed of interested parties collectively negotiates to resolve issues that arise pursuant to proposed

77. Telephone Interview with Mr. Robert Ostrowski (Sept. 19, 1991).
79. Telephone Interview with Mr. Robert Ostrowski (Sept. 19, 1991).
80. Id.
81. Id.
82. EPA IMPLEMENTATION STRATEGY, supra note 72, at 11.
83. Id. at 12. It should also be noted that Philadelphia's Department of Health has used a similar method in the past. Telephone Interview with Mr. Clemens Lazenka (Aug. 31, 1992).
regulation. 84 This process insures that interested parties have some direct input into the regulatory process so that the regulations are "sensitive to the needs and restrictions of both the parties and EPA." 85

It appears that EPA is committed not only to promulgating emission standards for hazardous air pollutants, but also to setting standards that are achievable by affected parties. Although standards may be "very tight," 86 the Director is probably justified in his hope that standards will be technologically feasible when promulgated, thus reducing the chance of noncompliance by city facilities.

B. Implementation of Risk Management Plans for Extremely Hazardous Air Pollutants

EPA will require sources in which more than the threshold amount of any extremely hazardous air pollutant is present to implement a risk management plan to detect and prevent accidental releases. 87 As previously noted, the language in section 112 does not clearly establish whether individual sources or governmental agencies will be responsible to implement the risk management plans. 88

Philadelphia's Director anticipates that EPA's guidelines for risk management plans (to be published no later than November 15, 1993) will not impose this requirement directly on individual facilities. 89 His prediction seems accurate, since to do so would be inconsistent with other provisions of section 112. Section 112(l) encourages state and local agencies, not individual sources, to submit implementation and enforcement plans in relation to the list of 189 hazardous air pollutants. 90 The Director expects no problems if the Department is required to establish guidelines for risk management plans. 91 The Department is ex-

84. EPA IMPLEMENTATION STRATEGY, supra note 72, at 11.
85. Id.
86. For further discussion of the Director's evaluation of new EPA requirements, see supra notes 79-81 and accompanying text.
87. For further discussion of requirements for risk implementation plans relating to the release of extremely hazardous air pollutants, see supra notes 69-72 and accompanying text.
88. For a discussion of the uncertainty of who will be responsible to implement and enforce risk management plans, see supra notes 73-75 and accompanying text.
89. Telephone Interview with Mr. Robert Ostrowski (Sept. 19, 1991).
91. Telephone Interview with Mr. Robert Ostrowski (Sept. 19, 1991).
experienced in establishing regulations which adequately meet EPA requirements.92

On the other hand, if individuals at affected industrial facilities try to establish their own risk management plans, the Department's work will most likely be doubled. The Director feels that employees at most facilities do not have the required expertise to implement such a plan without looking repeatedly to the Department for assistance.93

The Director is hopeful that EPA's guidelines will clearly incorporate section 112(r) requirements into the state and local implementation plans under section 112(l) to ensure uniform regulation and to facilitate compliance by city industries.94

VII. Conclusion

The 1990 Amendments have significantly changed regulations to control hazardous air pollutants. Despite the remarkable efforts of Philadelphia officials to control hazardous air pollutants in the absence of federal regulation, Philadelphia's regulations are now subject to changes EPA will implement under the 1990 Amendments.

Although certain facilities may experience financial or technological hardship in implementing EPA regulations, this author generally concludes that Philadelphia will benefit in the long run from federal intervention.

EPA's regulations will be based on the most recent technological, economic, and health-based factors available.95 Further, these regulations will be designed in part based on aggregate levels of hazardous air pollutants in order to reduce existing levels of such substances96 and will be reviewed for effectiveness

92. Id.
93. Id.
94. Id.
95. For a discussion of the scope of EPA's authority to use technological, economic, and health-based criteria, see supra notes 20-21 and accompanying text.
96. CAAA § 112(k)(1), 42 U.S.C.S. § 7412(k)(1). Congress recognized that "emissions of hazardous air pollutants from area sources may individually, or in the aggregate, present significant risks to public health in urban areas. . . . Ambient concentrations . . . should be reduced to levels substantially below those currently experienced." Id. (emphasis added).

Philadelphia officials were also cognizant of the necessity to consider emissions from sources individually as well as in the aggregate. Telephone Interview with Mr. Clemens Lazenka (Aug. 31, 1992). However, due to lack of funding, Philadelphia could not continually monitor aggregate emission levels. Id.
eight years after the enactment of the 1990 Amendments. In addition, EPA is authorized to grant money to assist state agencies in implementation of emission control standards. Another relevant consideration is that protection of the environment became a major issue in the 1992 presidential election campaign. Perhaps elected officials will feel pressure to aid individual facilities and government agencies in complying with EPA regulations without the threat of financial ruin.

Each of these factors may prove beneficial to Philadelphia, as it does not have the resources EPA has to fully utilize technological, economic, and health-based information as it becomes available. EPA is taking a different approach than Philadelphia took in meeting their common goal of reducing emissions of hazardous air pollutants. Philadelphia's plans and efforts, although remarkable, could not be completely implemented mainly due to lack of funding. Of course, only time will tell if EPA can fully carry out its plans, but, at least from a theoretical point of view, it appears that steps have been taken in the right direction.

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97. CAAA § 112(k)(5), 42 U.S.C.S. § 7412(k)(5).
98. For a discussion of EPA's authority to make grants to state and local agencies, see supra note 78 and accompanying text.
99. Telephone Interview with Mr. Robert Ostrowski (Sept. 19, 1991) (confirmed by Mr. Thomas Elliott via telephone interview on September 24, 1991). According to Mr. Elliott, ambient air monitors which would be necessary to test aggregate emission levels ranged in price from $10,000 to $15,000 approximately five years ago. Philadelphia has 13 stations which would have to obtain such equipment in order to properly test and monitor aggregate emissions.