COMMENT

REGULATION OF HAZARDOUS AIR POLLUTANTS UNDER SECTION 112 OF THE CLEAN AIR ACT AMENDMENTS OF 1990

I. INTRODUCTION

Title III of the Clean Air Act Amendments of 1990 (CAAA or 1990 Act)[1] completely changed the regulation of hazardous air pollutants under section 112[2] of the Act. These amendments, now almost four years old are becoming the cause of intense activity as the Environmental Protection Agency (EPA or Agency) and industry scramble to comply with the rigid schedule and standards mandated by Congress.

This paper will analyze current section 112, its predecessor and the regulatory activity that has resulted from the amendment of the Act.

II. THE PRE-1990 CAA NESHAP PROGRAM

Regulation of hazardous air pollutants under the Clean Air Act Amendments of 1970 is not considered to have been a success.[3] While there are hundreds of air toxics that may be a risk, only eight were listed between 1970 and 1990.[4] Emission standards were promulgated for only seven of the eight.[5]

The 1990 Act substantially replaced section 112; however, a look at the old provision and the litigation that resulted from the promulgation of regulations under it is necessary to understand how and why Congress changed section 112.

The Clean Air Act Amendments of 1970 implemented two separate programs for regulating air pollution. Section 109 of the 1970 Act required the EPA to publish national ambient air quality standards (NAAQS) for each of the "criteria pollutants."[6] Section 112 required the EPA to list and develop standards for "hazardous air pollutants" (HAPS).

Criteria pollutants are far more pervasive but less potent than hazardous air pollutants,[7] and are primarily the result of combustion of fossil

1. Clean Air Act Amendments of 1990, Pub. L. No. 101-549, 104 Stat. 2399 (1990).

2. CAA § 112, 42 U.S.C. § 7412 (Supp. 1993).

3. 136 CONG. REC. S16,895-01, 16,925 (1990).

4. 40 C.F.R. § 61 (1990). The eight are: asbestos (1971), beryllium (1971), mercury (1971), vinyl chloride (1975), benzene (1977), radionuclides (1979), inorganic arsenic (1980), and coke oven emissions (1984).

5. *Id.* Standards for coke oven emissions were not promulgated.

6. There are currently six criteria pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particulates, and sulfur oxides. *See generally* 40 C.F.R. §§ 50.4-50.12 (1993).

7. H.R. REP. No. 490, 101st Cong., 2nd Sess. 315 (1990).

fuels.[8] The 1970 Act defined criteria pollutants as those that "cause and contribute to air pollution which may reasonably be anticipated to endanger public health or welfare; the presence of which in the ambient air results from numerous or diverse mobile or stationary sources."[9] Criteria pollutants are not regulated under section 112 and may not be; section 112(b)(2) specifically prohibits the Agency from listing criteria pollutants as hazardous air pollutants.

The definition of "hazardous air pollutant" in the 1990 Act is not particularly informative: "[t]he term 'hazardous air pollutant' means any air pollutant listed pursuant to subsection (b) of this section."[10] The 1970 Act section 112 gave a more substantive definition:

> The term "hazardous air pollutant" means an air pollutant to which no ambient air quality standard is applicable and which in the judgement of the Administrator causes, or contributes to, air pollution which may reasonably be anticipated to result in an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness.[11]

Congress was generally concerned about cancer causing substances, but other health concerns were considered.[12]

The main flaw in the 1970 section 112 was the language used by Congress to direct the Agency in its promulgation of national emission standards for hazardous air pollutants (NESHAP). The language directs the Agency to list hazardous air pollutants and within 180 days to publish regulations establishing emission standards for the pollutant.[13] However the language of the statute provided less than certain guidance: "The Administrator shall establish any such standard at the level which in his judgement provides an ample margin of safety to protect the public health from such hazardous air pollutant."[14] Environmentalists would argue that a "ample margin of safety" would often require zero emissions while industry asserted that technological and economic feasibility factors were to be considered. The issue was further confused because the legislative history is not clear. The Senate bill made no provisions for using non-health factors.[15] In fact, it would only allow emissions after a showing that the emissions posed no health threat.[16] The House bill called for consideration of cost and technological factors in setting standards for new sources.[17] But the final version had no explicit instructions.

After years of debate, the issues of whether the EPA must set a zero emission level for carcinogens and whether the EPA could use feasibility

8. ZYGMUNT J. B. PLATER ET AL., ENVIRONMENTAL LAW AND POLICY: A COURSEBOOK ON NATURE, LAW AND SOCIETY 779-80 (1992).
9. CAA § 108(a)(1)(A-B), 42 U.S.C. § 7408(a)(1)(A-B) (Supp. 1993).
10. CAA § 112(a)(6), 42 U.S.C. § 7412(a)(6) (Supp. 1993).
11. CAA § 112(a)(1), 42 U.S.C. § 7412(a)(1) (Supp. 1989).
12. 136 CONG. REC. S16,895-01, 16,925 (1990).
13. CAA § 112(b), 42 U.S.C. § 7412(b) (Supp. 1989).
14. CAA § 112(b)(1)(B), 42 U.S.C. § 7412(b)(1)(B) (Supp. 1989).
15. S. 4358, 91st Cong., 2d Sess. § 115(a)(2) (1970).
16. *Id.*
17. H.R. REP. NO. 1783, 91st Cong., 2d Sess. (1970).

considerations in setting standards were clarified by the Court of Appeals for the District of Columbia in an *en banc* decision known as *Vinyl Chloride*.[18] In *Vinyl Chloride* the Natural Resources Defense Council (NRDC) asserted that the EPA must base its standards for the vinyl chloride NESHAP on only health-related considerations, and because vinyl chloride is a known carcinogen the emission level must be zero.[19] The EPA argued that, because the harm threshold level of vinyl chloride was uncertain, the language of the statute authorized the Administrator to exercise discretion and set a standard that could be complied with using the best available technology.[20] This level would reduce emissions of vinyl chloride 95 percent.[21]

The court held that the EPA was not required to set a zero level of emissions standard in promulgating regulations and could consider cost and technological feasibility.[22] However, the Court also held that the EPA could not consider cost or technological feasibility when determining the control level required to protect the public health.[23] The Court set out a two-step process for promulgating NESHAPs. First, the EPA must determine what is "safe,"[24] and in doing so no feasibility considerations would be allowed. Once the safety threshold was determined, the Administrator may set the standard at the lowest feasible level where there was an "ample margin of safety."[25]

The problem in *Vinyl Chloride* is typical of many hazardous air pollutants: (1) it appears to be unsafe for humans to be exposed to *any* level of the substance; and (2) requiring zero emissions of the substance would result in the shutting down of whole sectors of industry and the economic displacement of large numbers of workers.

III. List of Hazardous Air Pollutants Under the 1990 Amendments

A. *The Initial List*

In order to avoid delays that plagued the 1970 Act and problems associated with the *Vinyl Chloride* tests, Congress passed the 1990 Act with an initial list of hazardous chemicals to be regulated.[26] The list was created by the Senate committee and revised by the EPA, with substances being both added and deleted from the original list.[27] The substances identified by the

18. Natural Resources Defense Council, Inc. v. EPA, 824 F.2d 1146 (D.C. Cir. 1987) (en banc).
19. *Id.* at 1147.
20. *Id.* at 1148.
21. *Id.*
22. 824 F.2d at 1164.
23. *Id.*
24. The Court concluded that a finding that a level is safe does not mean that it is risk-free, but that: "[T]he Administrator must determine what inferences should be drawn from available scientific data and decide what risks are acceptable in the world in which we live." *Id.* at 1165.
25. *Id.*
26. S. Rep. No. 228, 101st Cong., 1st Sess. 156 (1989).
27. *Id.* at 159.

Committee were selected from three other lists: 1) substances listed in section 313 of the Emergency Planning and Community Right-to-Know Act of 1987; 2) substances listed as high priority environmental contaminants by the Agency for Toxic Substances and Disease Registry (ATSDR) pursuant to section 104(i) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA); and 3) air pollutants for which at least one State or local air pollution control agency has established an "acceptable ambient concentration" or standard as noted in the National Air Toxic Information Clearinghouse (NATICH) data base for July, 1986.[28]

The current list contains 189 listed hazardous pollutants.[29] Most of the pollutants are specific chemical compounds identified by a Chemical Abstracts Registry Service (CAS) number.[30] There are also seventeen categories of chemical substances listed, these listed compounds include any chemical compound that contains the named chemical that defines the category.[31] Because the Senate Committee foresaw that these "unique chemical substances" may vary in their toxicity or potential to yield a toxic constituent, the statute gives the Administrator discretion to take other factors into consideration when promulgating standards for the substance.[32]

B. Revisions to the List

The Agency is required by the statute periodically to revise the list of hazardous air pollutants and add any substance that the Administrator determines poses a threat, through inhalation or other means, of the following dangers:

> (1) Acute human health effects—[t]he chemical is known to cause or can reasonably be anticipated to cause significant adverse acute human health effects at concentration levels that are reasonably likely to exist beyond facility site boundaries as a result of continuous, or frequently recurring, releases.[33]
> (2) Chronic human health effects-[t]he chemical is known to cause or can reasonably be anticipated to cause in humans—
> (i) cancer or teratogenic effects, or
> (ii) serious or irreversible—
> (I) reproductive dysfunctions,
> (II) neurological disorders,
> (III) heritable genetic mutations, or
> (IV) other chronic health effects.[34]
> (3) Adverse environmental effects—[t]he chemical is known to cause or can reasonably be anticipated to cause, because of—
> (i) its toxicity,
> (ii) its toxicity and persistence in the environment, or—
> (iii) its toxicity and tendency to bioaccumulate in the environment, a significant adverse effect on the environment of sufficient seriousness, in the

28. *Id.* at 160.
29. CAA § 112(b)(1), 42 U.S.C. § 7412(b)(1) (Supp. 1993).
30. *Id.*
31. *Id.*
32. S. REP No. 228, 101st Cong. 1st Sess. 164 (1989).
33. *Id.* at 160-61.
34. *Id.* at 161.

> judgement of the Administrator, to warrant reporting under this section.[35]

The EPA has considerable discretion to list substances, but there are certain substances that may not be listed under section 112. Criteria pollutants may not be listed, but precursors to criteria pollutants that independently meet the requirements of section 112 may be.[36] No substance regulated under subchapter VI-Stratospheric Ozone Protection may be listed solely because of its adverse effects on the environment.[37] Decisions by the Administrator to add hazardous air pollutants to the list are not subject to judicial review.[38]

C. *Petitions to Modify the List*

Any person may petition the Agency to add to or delete any substance from the list.[39] To add a substance by petition, the person asserting the petition must show the same criteria that the Administrator would have to find to get a substance listed.[40] To delete a substance from the list there must be a showing that the emission, ambient concentration, bioaccumulation or deposition of the substance may not reasonably be expected to cause adverse health and environmental effects.[41] The statute allows deletion only if adequate data show that the substance does not meet the listing criteria and precludes deletion where evidence is insufficient to establish that the substance meets the criteria of the list.[42] This stringent procedure ensures that the removal of a substance from the list will not be a common occurrence. All petitions to modify the list of hazardous pollutants must either be granted or denied with an explanation within eighteen months of receiving the petition.[43]

IV. Source Categories

The Clean Air Act Amendments of 1990 required the EPA to publish a list of categories of sources, and then, in the ten years following enactment, to establish emission standards for each of the sources.[44] Sources under section 112 are defined as either being "major source" or "area sources." A major source is:

> A stationary source[45] or group of stationary sources located in a contiguous area and under common control that emits or has the potential to emit consid-

35. *Id.* at 161-62.
36. CAA § 112(b)(2), 42 U.S.C. § 7412(b)(2) (Supp. 1993).
37. *Id.*
38. CAA § 112(e)(4), 42 U.S.C. § 7412(e)(4) (Supp. 1993).
39. Three exceptions are: coke oven emissions, mineral fibers, and polycyclic organic matter. CAA § 112(b)(2), 42 U.S.C. § 7412(b)(2) (Supp. 1993).
40. CAA § 112(b)(3)(B), 42 U.S.C. § 7412(b)(3)(B) (Supp. 1993).
41. CAA § 112(b)(3)(C), 42 U.S.C. § 7412(b)(3)(C) (Supp. 1993).
42. *Id.*
43. CAA § 112(b)(3)(A), 42 U.S.C. § 7412(b)(3)(A) (Supp. 1993).
44. CAA § 112(c)(1), 42 U.S.C. § 7412(c)(1) (Supp. 1993).
45. "Stationary source" is defined under section 111 as "any building, structure, facility, or installation which emits or may emit any air pollutant."

> ering controls, in the aggregate, 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.[46]

The EPA uses different criteria for radionuclide emissions[47] and may set a lesser quantity for a major source based on characteristics of a specific pollutant.[48] An area source is any stationary source of hazardous air pollutants that is not a major source.[49] The EPA was required by Congress to list categories[50] of major and area sources, the initial list published on July 16, 1992[51] contained 166 major and 8 area source categories.[52] This broad listing requirement was narrowed by the limitation on the EPA's discretion in listing area sources. In order to list an area source, the EPA must find that there is a threat of an adverse effect to human health or the environment.[53]

The EPA's criteria for forming categories are primarily based on process- or product-oriented groupings; this results in categories with a mixture of both major and area sources.[54] A source in a category that does not meet the definition of a major source and is not also listed as a category of an area source is not subject to emission standards under § 112.[55]

The listing of categories is an ongoing process.[56] The EPA may list additional categories at any time it deems necessary and is obligated to make revisions if appropriate no less often than every eight years.[57] The EPA has a deadline with regards to the listing of additional categories of sources. The EPA must, by November 15, 1995 list categories of sources of eight specific pollutants[58] and also list categories of area sources that account for 90 percent or more of the thirty hazardous air pollutants that present the greatest threat to public health in the largest number of urban areas.[59] Decisions by the Administrator to add source categories to the list are not subject to judicial review.[60]

---

46. CAA § 112(a)(1), 42 U.S.C. § 7412(a)(1) (Supp. 1993).

47. A radionuclide is defined as a type of atom that spontaneously undergoes radioactive decay. Emissions of radionuclides occur around nuclear energy facilities and from uranium mill tailing pile disposal sites. 40 C.F.R. § 61.100 (1993).

48. *Id.*

49. CAA § 112(a)(2), 42 U.S.C. § 7412(a)(2) (Supp. 1993).

50. "A 'category' of sources is a group of sources having some common features suggesting that they should be regulated in the same way and on the same schedule." 57 Fed. Reg. 31,576, 31,578 (1992).

51. *See* Initial List of Categories of Sources Under Section 112(c)(1) of the Clean Air Act Amendments of 1990, 57 Fed. Reg. 31,576, 31,591 (1992).

52. The eight area sources in the initial list have been found to present a threat to either human health or the environment.

53. CAA § 112(c)(3), 42 U.S.C. § 7412(c)(3) (Supp. 1993).

54. 57 Fed. Reg. 31,576, 31,577 (1992).

55. *Id.* at 31,583.

56. *Id.* at 31,576.

57. CAA § 112(c)(3), 42 U.S.C. § 7412 (c)(3) (Supp. 1993).

58. CAA § 112(c)(6), 42 U.S.C. § 7412(c)(6) (Supp. 1993).

59. CAA § 112(k)(3)(B), 42 U.S.C. § 7412(k)(3)(B) (Supp. 1993).

60. CAA § 112(e)(4), 42 U.S.C. § 7412(e)(4) (Supp. 1993).

Source categories may be deleted from the list at any time, through petition of any person or the EPA. In order to delete, one must show that no source in the category emits hazardous air pollutants in quantities that may result in a lifetime cancer risk greater than one in 1,000,000 to the individual in the population who is most exposed to those emissions, and that emissions from no source in the category exceed a level that is adequate to protect public health and the environment.[61] The EPA is required to approve or deny this petition within one year of its filing.[62]

Source categories[63] are distinguished from stationary sources;[64] a stationary source will usually be comprised of multiple source categories and will either be a major source or an area source.[65] Major sources will be required to treat all source categories on the premises as major sources. Because of their presence on the premises of a major source these sources will have to comply with the higher standard of compliance associated with a major source.[66] Source categories in which there are no known major sources but that are commonly associated with major sources, may themselves be listed as major source categories.[67] But unless a source is part of a major source or also listed as an area source it will not be subject to regulation under section 112.[68]

Congress required the EPA to prioritize source categories and publish a schedule for the promulgation of standards for the categories.[69] Congress also listed the criteria for the EPA to consider while determining the priority ranking: (1) the known or anticipated adverse effects of hazardous air pollutants on the public health and the environment; (2) the quantity and location of emissions or reasonably anticipated emissions of hazardous air pollutants; and (3) the efficiency of grouping source categories according to the pollutants emitted, or the processes or technologies used.[70]

The schedule for the promulgation of emission standards was published on December 3, 1993.[71] The schedule grouped the categories into four groups with different deadlines for standard promulgation: six source categories had the deadline of November 15, 1992; thirty-nine have a deadline of November 15, 1994; forty-two have a deadline of November 15,

61. CAA § 112(c)(9)(B), 42 U.S.C. § 7412(c)(9)(B) (Supp. 1993).

62. *Id.*

63. *See supra* note 50.

64. *See supra* note 45.

65. 57 Fed. Reg. 31,576, 31,578 (1992).

66. *Id.*

67. The EPA uses the example of the source category "[i]ndustrial process cooling towers" which individually emit less than one ton per year of a listed substance, but are listed as a major source category because they are commonly found on the premises of major sources. 57 Fed. Reg. 31,576, 31,579 (1992).

68. *Id.*

69. CAA § 112(e), 42 U.S.C. § 7412(e) (Supp. 1993).

70. *Id.*

71. National Emission Standards for Hazardous Air Pollutants Schedule for the Promulgation of Emission Standards Under Section 112(e) of the Clean Air Act Amendments of 1990, 58 Fed. Reg. 63,941 (1993).

1997; and the remaining eighty-seven source categories must have standards promulgated by November 15, 2000.[72]

The schedule was out of date when published, however the schedule still has tremendous significance. In the event that a standard for a major source category is not promulgated on the scheduled date, then starting eighteen months after that date the operator of the major source must submit a permit application to the EPA.[73] This permit application will be either approved or disapproved under the title V permit process.[74] The permit issued will contain emission limitations that the EPA determines on a case-by-case basis to be the equivalent of the emission limitation that should have been promulgated for that source.[75]

V. STANDARDS

Congress sought to avoid the pitfalls of the 1970 Act's reliance on health-based standards by using a two-tiered system of regulation; an initial technology-based approach followed by a secondary harm-based standard designed to control residual risks still occurring after the technological controls have been applied.

A. MACT Standards

The EPA is required to promulgate emission standards for each source category. The emission standards must achieve the maximum degree of emissions reduction deemed achievable for new or existing sources, considering the cost of achieving the emissions reductions, non-air quality health and environmental impacts and energy requirements.[76] This standard is typically referred to as MACT—maximum achievable control technology. The Clean Air Act establishes minimum levels referred to as MACT floors, for national emission standards for hazardous air pollutants. For existing sources in a category with thirty or more sources, the MACT floor cannot be less stringent than the average emission limitation achieved by the best performing 12 percent of the existing sources in the United States.[77]

For existing sources in categories with less than thirty sources the MACT floor cannot be less stringent than the average emission limitation achieved by the best performing five sources.[78] New sources are held to the highest standard, the MACT floor cannot be less stringent than the control level achieved in practice by the best controlled similar source in

72. 58 Fed. Reg. 63,941, 63,953-54 (1993).

73. CAA § 112(j), 42 U.S.C. § 7412(j) (Supp. 1993).

74. *Id.*

75. *Id.* For a more detailed discussion of the equivalent emissions permitting, see *infra* notes 103-06 and accompanying text.

76. CAA § 112(d)(2), 42 U.S.C. § 7412(d)(2) (Supp. 1993).

77. 58 Fed. Reg. 66,135, 66,136 (1993); *see also* CAA § 112(d)(3), 42 U.S.C. § 7412(d)(3) (Supp. 1993).

78. *Id.*

that source category, or that level which is deemed achievable by the permitting authority based on the best technology currently available.[79]

There has been considerable debate concerning the following statutory language in section 112(d)(3)(A): "the average emission limitation achieved by the best performing 12 percent of the existing sources," and "the average emission limitation achieved by the best performing 5 sources." Two major interpretations were offered: one view results in the MACT floor at the 94th percentile; and the other at the 88th percentile. The EPA asserted that the words "average emission limitation achieved by" should be grouped together in a single phrase, with emphasis on the word "average." Next, the EPA would consider the average emission limitation achieved by each of the sources in the upper 12 percent, and then determine the average of those limitations as a group.[80] This average calculated by the Agency would be approximately the 94th percentile.

In the lower MACT floor interpretation, the Agency would look at the average emission limitation achieved by each of the best performing 12 percent of existing sources and take the lowest.[81] This view groups the words "average emission limitation" into a single phrase and asks what "average emission limitation" is "achieved by" all members of the best performing 12 percent, the result is that the level of control would be at the 88th percentile if the sources were ranked from the best controlled source to the least controlled existing source.[82] After soliciting comments from the public and an examination of the legislative history of the Act, the EPA published a final rule supporting their interpretation, the higher floor interpretation.[83] While this rule was promulgated in reference to a specific NESHAP, the Agency indicated that the rule would be followed in subsequent MACT rulemakings.[84]

MACT standards are not always required. Congress, in order to avoid unnecessary regulation and expenditures by industry, allows an alternative standard for sources of certain substances.[85] If there is a well-established health threshold higher than the MACT standard and the MACT standard would offer no increase in health or environmental benefit, the Administrator has the discretion to set the standard for the source at the health threshold.[86]

Area sources may also avoid compliance with MACT standards. The Agency can at its discretion choose one of two options.[87] The Agency may

79. *Id.*

80. 59 Fed. Reg. 29,196, 29,197 (1994).

81. *Id.*

82. *Id.*

83. National Emission Standards for Hazardous Air Pollutants for Source Category: Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry and Other Processes Subject to the Negotiated Regulation for Equipment Leaks; Determination of MACT "Floor," 59 Fed. Reg. 29,196 (1994) (to be codified at 40 C.F.R. § 63).

84. *Id.* at 29,200.

85. S. REP. No. 228, 101st Cong., 1st Sess. 171 (1989).

86. *Id. See also* CAA § 112(d)(3), 42 U.S.C. § 7412(d)(3) (Supp. 1993).

87. CAA § 112(d)(5), 42 U.S.C. § 7412(d)(5) (Supp. 1993).

require the area source to comply with MACT standards, or it may require the source to allow the use of generally available control technology (GACT).[88] GACT standards are those "methods, practices and techniques which are commercially available and appropriate for application by the sources in the category considering economic impacts and the technical capabilities of the firms to operate and maintain the emissions control systems."[89] Area sources are often small businesses, and Congress has by this policy attempted to minimize the economic burden of regulation where it is possible. However there is another purpose for this regulatory alternative:

> This alternative regulatory option is provided to encourage control of area sources. Listing area sources for control under this section is a discretionary authority with the Administrator. Experience under section 112 indicates that pollutants and source categories will not get listed if the only regulatory regime which meets statutory requirements is considered too costly for the public health benefits to be achieved. By providing the Administrator with a regulatory tool less stringent than MACT for area sources, the legislation provides additional avenues for public health and environmental protection.[90]

Congress compromised on the issue of regulation of area sources to allow some regulation to take place.

B. Health-Based Emission Standards

Congress did not entirely abandon the health-based approach of the 1970 Act. The EPA is mandated to investigate and report back to Congress by November 15, 1996, the dangers to health and the environment that still remain after the technology-based controls are implemented.[91] This report must include information on: 1) methods of calculating the risk remaining after MACT standards have been applied, and any uncertainty in the method used to calculate those remaining risks, 2) the health significance of that remaining risk, and the actual health effects to persons living in the vicinity of sources, 3) the technologically and commercially available methods and the cost of reducing the remaining risks, 4) risks presented by background concentrations of hazardous air pollutants, 5) any negative health or environmental consequences of efforts to reduce residual risk, and 6) recommendations about legislation regarding remaining risk.[92]

If Congress does not act on the EPA's recommendations, the Agency must act. The EPA is then required to promulgate residual risk standards within eight years after the MACT standards for each source category have been promulgated; if additional standards are necessary to provide an ample margin of safety or to prevent an adverse environmental effect.[93]

The EPA is not required to promulgate residual risk emission standards for area sources not subjected to MACT, but it may at its discretion.

---

88. *Id.*
89. S. REP. No. 228, 101st Cong., 1st Sess. 171 (1990).
90. *Id.* at 171-72.
91. CAA § 112(f)(1), 42 U.S.C. § 7412(f)(1) (Supp. 1993).
92. CAA § 112(f)(1), 42 U.S.C. § 7412(f)(1) (Supp. 1993).
93. CAA § 112(f)(2), 42 U.S.C. § 7412(f)(2) (Supp. 1993).

VI. COMPLIANCE

A. *Compliance Schedule*

All new sources for which a standard has been promulgated must comply with that standard and receive a title V permit before the source may be constructed or reconstructed.[94] However, there is an exception for new sources that are constructed or reconstructed after a standard is proposed but before the final rule is promulgated. This exception allows the source a three-year extension if: 1) the final rule is more stringent than the proposed rule, and 2) the source complies with the standard as proposed during the three year period immediately after promulgation.[95]

Existing sources will be subject to compliance dates as the NESHAP requires but in no case will the deadline be later than three years after the standard is promulgated.[96] The EPA may issue a one-year extension if it is necessary for the installation of controls.[97]

B. *Compliance Extensions for Early Reductions*

There is an incentive in the compliance regime to reduce emissions voluntarily before standards are promulgated. Section 112(i)(5) allows sources a six-year compliance extension if the owner/operator achieves a 90 percent[98] or better reduction in emissions from a base year no earlier than 1987. The reduction must be achieved prior to proposal of the standard the source would be subject to.[99]

If an existing source installs, prior to promulgation of a MACT or residual risk standard, best achievable control technology (BACT)[100] or controls to meet lowest achievable emission rate (LAER)[101] for the same pollutant; then the source will not have to comply with the new standard for five years after such installation or control is achieved.[102]

C. *MACT Hammer*

The EPA published the schedule for source category standards on December 3, 1993.[103] Source categories were prioritized by the EPA and given deadlines for standards to be promulgated. Because of the fear that

94. CAA § 112(i)(1), 42 U.S.C. § 7412(i)(1) (Supp. 1993).
95. CAA § 112(i)(2), 42 U.S.C. § 7412(i)(2) (Supp. 1993).
96. CAA § 112(i)(3), 42 U.S.C. § 7412(i)(3) (Supp. 1993).
97. *Id.*
98. A 95 percent reduction is required for sources emitting particulate hazardous air pollutants.
99. 58 Fed. Reg. 62,539, 62,540 (1993).
100. Best Achievable Control Technology means an emission limitation based on the maximum degree of reduction for each air pollutant subject to regulation, taking into account energy, environmental, and economic impacts, and other costs. CAA § 169, 42 U.S.C. § 7479 (Supp. 1993).
101. Lowest Achievable Emissions Rate means that rate of emissions which reflects the most stringent limitation for that source category contained in the regulations of any state, or which is achieved in practice by any source, whichever is more stringent. CAA § 171, 42 U.S.C. § 7501 (Supp. 1993).
102. CAA 112(i)(6), 42 U.S.C. § 7412(i)(6) (Supp. 1993).
103. 58 Fed. Reg. 63,941 (1993).

promulgation of standards would not follow the schedule mandated by Congress, a fail-safe mechanism was included in the statute, the "MACT hammer." Section 112(j) provides that, if the EPA misses the deadline for a particular source category by more than eighteen months, the owner/operator of each major source in that category must apply for a case by case MACT determination by the title V permitting authority.[104] Because the EPA fulfilled its first deadline by promulgating standards within eighteen months of the deadline for the source categories with a November 15, 1992, deadline, the earliest date that section 112(j) could come into effect would be May 15, 1996.[105] This is eighteen months after the November 15, 1994 deadline when standards for 25 percent of the listed source categories must be promulgated.[106]

D. Construction and Reconstruction of Major Sources

The Act requires more stringent compliance standards for constructed and reconstructed major sources than for modified major sources.[107] A constructed or reconstructed major source will have to comply with the harsher new source MACT standard, which is equal to or better than the best controlled similar source in the United States.[108] A modified source will have to meet MACT standards for existing sources.[109]

The definitions of the terms "construction" and "reconstruction" under section 112 have not yet been finalized. The definition of construction will include the construction of an emitting unit on a previously undeveloped area, but might not include the construction of a major emitting unit within the boundary of an existing major source.[110] If the entire plant was considered a major stationary source, rather than a group of major sources, the construction of the emitting unit would be a modification and would be subject to the more lenient standard.[111]

Limitations on the reconstruction of major sources are designed to prevent the avoidance of regulation by completely overhauling equipment rather than making replacements. A major source will be deemed to have been reconstructed if the cost of the overhaul or upgrade costs more than 50 percent of the cost of a new unit.[112]

---

104. Hazardous Air Pollutants: Regulations Governing Equivalent Emission Limitations by Permit, 59 Fed. Reg. 26,429, 26,430 (1994).

105. *Id.* at 26,431.

106. CAA § 112(e)(1), 42 U.S.C. § 7412(e)(1) (Supp. 1993).

107. Hazardous Air Pollutants: Proposed Regulations Governing Constructed, Reconstructed or Modified Major Sources, 59 Fed. Reg. 15,504, 15,511 (1994); *see also* CAA § 112(g), 42 U.S.C. § 7412(g) (Supp. 1993).

108. *Id.*

109. *Id.*

110. 59 Fed. Reg. 15,504, 15,519 (1994).

111. *Id.*

112. *Id.* at 15,521.

Once a title V program is implemented, the permitting authority[113] must determine before the construction or reconstruction commences that the source will conform to the MACT standards for new sources.[114] If a NESHAP has been promulgated for the source, it will have to meet all the requirements of that standard.[115] If no MACT standard has been promulgated, a MACT determination for the source will have to be made on a case-by-case basis before a permit will be issued.[116] The MACT determination requires a detailed analysis by the owner or operator of the emission rates and control technologies involved in the process to be installed.[117] The burden is on the owner or operator of the facility to show that the technology to be used meets the requirements of the Act.

This difficult process will be aided in the future by a data management system being designed by the EPA.[118] This system, called the "MACT data base," will contain information on control technologies and MACT floor findings that have been developed by the EPA and industry groups.[119] The EPA wants to require all case-by-case determinations made by permitting authorities to be stored in the data base.[120]

E. Modifications

The term "modification" is treated differently in section 112 than elsewhere in the Act. Under section 111, Standards of Performance for New Stationary Sources, a modification is any physical or operational change that results in an increased amount of any air pollutant emitted or which results in the emission of any pollutant not previously emitted.[121] Modifications under section 111 result in the source being treated as a "new source."[122] Under section 112 a modification is a physical change in the operation of a source that results in more than a de minimis[123] increase in emissions of a hazardous air pollutant.[124] More important than the differ-

113. Permitting authority is defined as the EPA or a state or local agency that has been authorized by the EPA to conduct a permit program. 59 Fed. Reg. 12,408, 12,434 (1994)(to be codified at 40 C.F.R. § 63.2).

114. 59 Fed. Reg. 15,504, 15,521 (1994) (to be codified at 40 C.F.R. pt. 63.42) (proposed Apr. 1, 1994).

115. *Id.*

116. The EPA takes the position and has published the proposed rule to require that the MACT determination must be made before the construction, reconstruction, or modification takes place. EPA arrives at this conclusion based on the language in §§ 112(g)(2)(A)-(B) that requires that the permitting authority will determine that MACT "will be met." 59 Fed. Reg. 15,504, 15,533 (1994).

117. *Id.* at 15,533.

118. *Id.* at 15,535.

119. *Id.*

120. *Id.*

121. CAA § 111(a)(3), 42 U.S.C. § 7411(a)(3) (Supp. 1993).

122. CAA § 111(a)(2), 42 U.S.C. § 7412(a)(2) (Supp. 1993).

123. The term "de minimis" is not defined in the CAA; however, the EPA follows the general principles established in Alabama Power Co. v. Costle, 636 F.2d 323 (D.C. Cir. 1979). The court concluded that the EPA may choose to exempt from regulation changes when, "the burdens of regulation yield a gain of trivial or no value" and also that, "the de minimis exemption must be designed with the specific administrative burdens and specific regulatory context in mind."

124. CAA § 112(g)(1), 42 U.S.C. § 7412(g)(1) (Supp. 1993).

ence in the way the term is defined, is the way the change, once classified as a modification is treated. A modification under section 112 must only comply with standards for existing sources, not new sources.[125] If no MACT standard has been promulgated for that source, the modified source must apply to the Agency for a permit on a case-by-case basis.[126]

Offsets are specifically permitted by section 112(g) to allow a source to increase emissions and still avoid being considered a modification. The source can increase the quantity of a hazardous air pollutant if that increase will be offset by an equal or greater decrease in the emission of another hazardous air pollutant that is determined by the EPA to be more hazardous than the pollutant for which emissions have been increased.[127] In order to determine if a pollutant is more hazardous than another, the EPA has developed a ranking system to show the relative hazards of the listed pollutants.[128]

VII. CONCLUSION

The Clean Air Act Amendments of 1990 have completely altered the regulation of hazardous air pollutants. This expanded technology-based control program has created an explosion of regulation which is already challenging both the regulators and those being regulated, but which have also resulted in more effective controls than were implemented during the entire twenty year history of the hazardous air pollutants program of the Clean Air Act Amendments of 1970.

Mark W. Ciaravella

125. CAA § 112(g)(2), 42 U.S.C. § 7412(g)(2) (Supp. 1993).
126. *Id.*
127. 59 Fed. Reg. 15,504, 15,524 (1994).
128. *Id.* at 15,548.