A Scrivener's Error or Greater Protection of the Public: Does the EPA Have the Authority to Delist Low-Risk Sources of Carcinogens from Section 112's Maximum Achievable Control Technology Requirements?

Bradford Mank
University of Cincinnati College of Law, brad.mank@uc.edu

Follow this and additional works at: http://scholarship.law.uc.edu/fac_pubs
Part of the Environmental Law Commons

Recommended Citation
Mank, Bradford, "A Scrivener's Error or Greater Protection of the Public: Does the EPA Have the Authority to Delist Low-Risk Sources of Carcinogens from Section 112's Maximum Achievable Control Technology Requirements?" (2005). Faculty Articles and Other Publications. Paper 260.  
http://scholarship.law.uc.edu/fac_pubs/260
A SCRIVENER'S ERROR OR GREATER PROTECTION OF THE PUBLIC: DOES THE EPA HAVE THE AUTHORITY TO DELIST "LOW-RISK" SOURCES OF CARCINOGENS FROM SECTION 112'S MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY REQUIREMENTS?

Bradford C. Mank*

I. INTRODUCTION ........................................ 76
II. CARCINOGENS AND NON-CARCINOGENS: THE EARLY HISTORY OF SECTION 112 ........................................ 82
   A. What Are Air Toxics? ..................................... 82
   B. 1970–90: The EPA Struggles to Apply the "Ample Margin of Safety" Standard ........................................ 85
III. THE 1990 AMENDMENTS: TECHNOLOGY FIRST, THEN RISK-BASED ........................................ 89
    A. Technology-Based Standards: MACT and GACT .... 90
    B. Section 112(f)’s Residual Risk Program ............ 93
IV. EXCEPTIONS TO MACT: THRESHOLD POLLUTANTS AND DELISTING ........................................ 96
    A. Section 112(d)(4): Threshold Pollutants May Use an "Ample Margin of Safety" Standard Instead of MACT ........................................ 98
    B. The EPA's Authority to Delist Under Subsection 112(c)(9)(B) ........................................ 100
       1. Statutory Language ...................................... 100
V. THE PCWP RULE: THE EPA'S USE OF SUBSECTION 112(c)(9)(B) TO DELIST A SUBCATEGORY OF LOW-RISK CARCINOGENIC SOURCES FROM MACT STANDARDS ........................................ 103

* Bradford C. Mank is the James B. Helmer, Jr. Professor of Law at the University of Cincinnati. He teaches environmental law, international environmental law, and administrative law. He practiced environmental law with a private law firm in Hartford and as an Assistant Attorney General for the State of Connecticut. He earned his B.A. at Harvard University and his J.D. at Yale Law School.
A. Summary of the PCWP Rule ......................... 103
B. Public Comments on Delisting a Subcategory of Carcinogens ............................................. 104
C. The EPA's Argument That the Agency Has Broad Discretion to Define Categories or Subcategories Under Section 112 ............................................... 105
   1. The Agency's Broad Discretion Argument .... 105
   2. Problems With the EPA's Claim of Broad Discretion Under Subsections 112(c)(1) and 112(d)(1) .......................................................... 107
   3. Is the EPA's Low-Risk Subcategory the Equivalent of Exempting Individual Sources? 108
VI. Is Subsection 112(c)(9)(B)(i)'s Use of the Term "Category" Binding or a Drafting Error? .... 113
   A. The EPA's Drafting Error Argument .............. 113
   B. Courts Narrowly Apply the Scrivener's Error Doctrine .................................................... 114
   C. Refuting the EPA's Drafting Error Argument .... 116
      1. Logic is Not Enough ............................ 116
      2. The Most Reasonable Construction Does Not Prove a Drafting Error ............................. 116
      3. A Literal Reading of Subsection 112(c)(9)(B)(i) is Reasonable and Does Not Contradict Subsection 112(c)(9)(B)(ii) ............... 117
      4. Subsection 112(c)(9)(B)'s Approach for Delisting "Area Sources" Does Not Prove that the Omission of the Term "Subcategory" in Subsection 112(c)(9)(B)(i) is Absurd .... 119
      5. The EPA's Drafting Error Argument Fails .... 119
   D. Does the EPA's Interpretation of Subsection 112(c)(9)(B)(i) Deserve Deference under Chevron? .......................................................... 121
VII. Conclusion ............................................. 122

I. INTRODUCTION

Since 1970, section 112 of the Clean Air Act (the Act) has required the EPA to establish national emission standards for haz-
ardous air pollutants (NESHAPs), or air toxics. Section 112 regulates all stationary sources such as factories, power plants, and refineries that emit listed air toxics. The Act currently lists 187 different types of regulated hazardous air pollutants, some of which are carcinogens and some of which are non-carcinogens that pose other serious health risks.

In section 112 of the 1970 Amendments to the Act, Congress mandated that the Administrator of the Environmental Protection Agency (EPA) establish health-based standards for air toxics that

---

1 The 1970 Act defined a hazardous air pollutant as "an air pollutant to which no ambient air quality standard is applicable and which in the judgment of the Administrator [of the EPA] causes, or contributes to . . . an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness." 42 U.S.C. § 7412(a)(1) (1970).


3 42 U.S.C. § 7412(a)(3) (2000) (defining “stationary source” of hazardous air pollutants as having same definition as that found in Section 111(a): “any building, structure, facility, or installation which emits or may emit any air pollutant”). The hazardous emissions of mobile sources, such as cars, trucks, and buses, are beyond the scope of this article. See 42 U.S.C. § 7521(1) (addressing mobile source-related air toxics).

4 In the 1990 Amendments, Congress initially listed 189 hazardous air pollutants, but the EPA, acting under the authority of section 112(b)(3)(C), later deleted caprolactam and most recently delisted ethylene glycol monobutyl ether. See 42 U.S.C. §§ 7412(b)(1), 7412(b)(3)(c) (1994) (listing 189 hazardous air pollutants and giving the EPA authority to delete air toxics if it concludes that substance poses no adverse effects to human health or environment); McCubbin, supra note 2, at 1 n.1 (stating that the EPA delisted caprolactam and that 188 chemicals were listed in 2003); Petition To Delist of Ethylene Glycol Monobutyl Ether, 69 Fed. Reg. 96,320 (Nov. 29, 2004) (delisting ethylene glycol monobutyl ether (EGBE) from section 112(b)(1) list of air toxics, but continuing regulation of EGBE as volatile organic compound).


6 See Alan Jay Goldberg, Note, Toward Sensible Regulation of Hazardous Air Pollutants Under Section 112 of the Clean Air Act, 63 N.Y.U. L. REV. 612, 613 n.11 (1988) (stating, “The term ‘health-based’ . . . is used to refer to those factors relating exclusively to the risk posed to human health by ingestion of a given pollutant.”). Some courts or commentators would characterize section 112 as a “risk-based” statute regulating air emissions based on their likely impacts on human health. See, e.g., Sierra Club, 353 F.3d at 979 (“EPA followed a risk-based analysis to set emission standards under the statute, meaning that the EPA considered levels of HAPs at which health effects are observed, factored in an ‘ample margin of safety to protect the public health,’ and set emission restrictions accordingly.”) (emphasis in original).
provide "an ample margin of safety to protect the public health from such hazardous air pollutant." However, the statute failed to provide adequate guidance on how the EPA should interpret or apply the "ample margin" standard. Because the EPA regulated only seven air toxics from 1970 until 1990, Congress in the 1990 Amendments to the Act substantially revised section 112 to authorize the EPA to use a primarily technology-based regulatory scheme to reduce air toxics. The 1990 Amendments require the EPA to issue emissions standards based on the "maximum achievable control technology" (MACT) standard for each category or subcategory of major sources of air toxics. Subsection 112(c)(9)(B), however, authorizes the EPA under certain conditions to delete, or "delist," a category or subcategory of sources from MACT standards if all sources in the category or subcategory are "low-risk."
This article will focus on the scope of the EPA's authority to delist categories and subcategories of sources, especially those emitting carcinogens. The plain language of subsection 112(c)(9)(B) provides different requirements for carcinogenic and non-carcinogenic air toxics. Under subsection 112(c)(9)(B)(ii), the EPA has authority to exempt either categories or subcategories of sources emitting non-carcinogenic air toxics from MACT standards as long as the EPA substitutes standards that are "adequate to protect public health within an ample margin of safety" and that will cause "no adverse environmental effect."\(^\text{16}\) By contrast, subsection 112(c)(9)(B)(i) explicitly provides the EPA with the authority to exempt from MACT standards only whole categories of carcinogenic sources, provided that no source in the category emits air toxics causing "a lifetime risk of cancer greater than one-in-one-million to the individual in the population who is most exposed to emissions of such pollutants from the source."\(^\text{17}\) The subsection does not explicitly authorize the EPA to exempt a subcategory of sources releasing carcinogenic chemicals. The omission of the term "subcategory" in subsection 112(c)(9)(B)(i) is potentially very significant and may limit the EPA's authority to delist a subcategory of carcinogenic sources from a larger category of such sources.

Even though subsection 112(c)(9)(B)(i)'s statutory language only authorizes the EPA to exempt whole categories of carcinogenic sources, the EPA recently published a rule that purports to use that very subsection to delist a subcategory of "low-risk" sources. On July 30, 2004, the EPA published a final rule for the plywood and composite wood industries (PCWP). The rule established MACT standards for approximately 223 sources that release potentially carcinogenic air toxics, including formaldehyde.\(^\text{18}\)

\(^\text{18}\) National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products; Effluent Limitations Guidelines and Standards for the Timber Products Point Source Category; List of Hazardous Air Pollutants, Lesser Quantity Designations, Source Category List, 69 Fed. Reg. 45,944, 45,996–45,997 (July 30, 2004) [hereinafter PCWP Rule] (stating that one "commenter's sensitivity analysis showed that formaldehyde and acetaldehyde made up the bulk of the cancer risk."). In its 1996 National Air Toxics Assessment, which examined the impact of thirty-two of the thirty-three most harmful air toxics in urban areas and is the Agency's most comprehensive examination of air toxics, the EPA identified formaldehyde as a "probable" human carcinogen and estimated that it posed an upper-bound lifetime cancer risk exceeding ten-in-one-million to more than twenty-five million people, with only the known carcinogens benzene and chromium posing such potentially high risks. See EPA, Office of Air and Radiation, National Air Toxics Assessment, Estimated Risk, Summary of Results (2002), available at http://www.epa.gov/ttn/atw/nata/risksum.html (last visited Dec. 2, 2005) [hereinafter National Air Toxics Assessment].
However, partly in response to an industry petition and partly in response to its own initiative, the EPA also established an exemption that could apply to over half of PCWP sources. Specifically, the EPA used its subsection 112(c)(9)(B)(i) authority to "delist" and treat as a separate subcategory "low-risk" PCWP sources that release small amounts of air toxics. The agency justified this exemption on the grounds that these PCWP facilities posed such low risks that the PCWP MACT standards were unnecessary and too costly. During 2003 and 2004, the EPA also adopted or considered similar exceptions under subsection 112(c)(9)(B) for other source categories releasing air toxics. The EPA's claim that it has the authority to exempt subcategories of so-called "low-risk" carcinogenic sources is significant because it could be used to exempt thousands of sources governed by MACT standards in dozens of industries. It would also give the Agency authority to exempt individual sources from MACT, an authority that Congress in 1990 explicitly refused to grant to the Agency.

Assessment, Estimated Risk, Summary of Results. The PCWP Rule also found that acrolein and formaldehyde from PCWP sources could pose significant acute non-cancer risks in high doses, with acrolein probably posing the greatest possible non-cancer risk. The EPA stated that "only acrolein and formaldehyde showed the potential for acute exposures of any concern." PCWP Rule, supra at 45,950; see also PCWP Rule supra at 45,996–97 (stating that one commenter's sensitivity analysis showed that "[u]nder all scenarios, acrolein contributed the most non-cancer risk.").

See PCWP Rule, supra note 18, at 45,944, 45,955–56.


In its PCWP rule, the EPA contended that it has the authority to exempt a subcategory of "low-risk" sources releasing carcinogenic chemicals because it assumed that Congress had made a drafting error in subsection 112(c)(9)(B)(i) by using only the term "category," but not the term "subcategory." In rare cases where statutory language makes little sense or contravenes Congress's likely intent, courts have recognized the doctrine of scrivener's error to correct obvious errors in a statute. Because of a strong presumption that Congress normally is careful in using statutory language, there is a heavy burden on an agency to demonstrate that a statute contains a scrivener's error, and courts limit an agency's discretion in rectifying such an error to the smallest change necessary to fix the error.

On September 28, 2004, the Natural Resources Defense Council (NRDC) and the Environmental Integrity Project filed a petition for reconsideration (the Petition) with the EPA's then-Administrator, Michael Leavitt, asking him to indefinitely stay the PCWP rule. The Petition argues that the plain language of subsection 112(c)(9)(B)(i) explicitly allows the EPA to delist only an entire source category of carcinogenic air toxics and only if every single source in the category is low-risk. Accordingly, the Petition contends that the Agency may not delete a limited subcategory of sources emitting carcinogens, such as some but not all PCWP sources.

This article concludes that the EPA's creation of a low-risk subcategory of PCWP sources is improper because the plain language of subsection 112(c)(9)(B)(i) limits the Agency's delisting authority to whole categories of carcinogenic sources. The EPA has failed to meet its heavy burden in attempting to demonstrate that Congress

23 See PCWP Rule, supra note 18, at 45,990 (discussing 42 U.S.C. § 7412(c)(9)(B)(i) and concluding that absence of the term "subcategory" in that provision is a drafting error).


25 See PCWP Petition for Reconsideration, supra note 22.

26 Id.
made a drafting error when it omitted the term "subcategory" in subsection 112(c)(9)(B)(i) for carcinogenic chemicals. The doctrine of scrivener's error is inapplicable to the plain language of subsection 112(c)(9)(B)(i). There are plausible reasons why Congress would have used the term "subcategory" in subsection 112(c)(9)(B)(ii) for non-carcinogenic chemicals that were assumed to have a safe threshold but deliberately omitted the term "subcategory" in subsection 112(c)(9)(B)(i) for carcinogenic chemicals that were assumed in 1990 to have no safe threshold other than zero emissions.27

Part II examines the differences between "non-threshold" carcinogens and "threshold" non-carcinogens and the difficulties that the EPA had in regulating air toxics under the 1970 Amendments to section 112. Part III explains the 1990 Amendments to section 112, which shifted the statute to a largely technology-based focus. Part IV examines two provisions in Section 112—subsections 112(d)(4) and 112(c)(9)(B)—that treat non-threshold carcinogens differently than threshold non-carcinogens. Part V introduces the PCWP Rule's process for delisting a "low-risk" subcategory of carcinogenic sources under subsection 112(c)(9)(B)(i). Finally, Part VI examines the EPA's argument that the omission of the term "subcategories" in subsection 112(c)(9)(B)(i) is a drafting error. It concludes that the EPA has failed to meet its burden of proving a scrivener's error because there are plausible reasons why Congress might have allowed the delisting of subcategories of non-carcinogenic sources, but limited the delisting of carcinogens to entire source categories.

II. CARCINOGENS AND NON-CARCINOGENS: THE EARLY HISTORY OF SECTION 112

A. What Are Air Toxics?

There are two main types of air toxics: carcinogens that cause various types of cancer and non-carcinogens that cause other serious neurological, reproductive or acute diseases. Carcinogenic air toxics, including, among many others, benzene and vinyl chloride, cause an estimated three thousand cases of fatal cancer each year.28

27 See PCWP Petition for Reconsideration, supra note 22, at 44–51 (arguing that the EPA's claim that absence of the term "subcategory" in 42 U.S.C. § 112(c)(9)(B)(i) is a drafting error is wrong because there are plausible reasons why Congress chose to omit that term).

28 See 42 U.S.C. § 7412(a)(11) (defining "carcinogenic effect" as "having" the meaning provided by the Administrator under Guidelines for Carcinogenic Risk Assessment as of
Non-carcinogenic air toxics include various metals, such as mercury, chromium and cadmium, which can cause reproductive harms, birth defects or other developmental disorders, lung disease, neurological disorders, and other health problems.  

Until the late 1990s, the EPA assumed that all carcinogens were non-threshold chemicals posing a risk of injury to human health at all concentrations and that there was no completely safe level other than zero exposure. By contrast, the EPA generally assumed that most non-carcinogens were “threshold” chemicals having a safe limit at low levels of exposure and posing a risk to human health.

The date of enactment”); McCubbin, supra note 2, at 1–2 (discussing regulation of carcinogenic air toxics); Reitze & Lowell, supra note 7, at 235. Some carcinogens may also cause other harmful health effects; for example, new research indicates that long-term exposure to even low-levels of benzene may harm white blood cells and may require more stringent benzene limits than the current one part per million standard used by the Occupational Safety and Health Administration for occupational exposure. Bryn Nelson, Worker Safety Study: Benzene Depletes White Blood Cells, NEWSDAY, Dec. 3, 2004, at A56.

29 See TAKING TOXICS OUT, supra note 2, at 1–2; 136 CONG. REC. S16,895, S16,925 (1990) (discussing regulation of non-carcinogenic air toxics); McCubbin, supra note 2, at 1-2; Reitze & Lowell, supra note 7, at 235.

30 See, e.g., Proposed Guidelines for Carcinogen Risk Assessment, 61 Fed. Reg. 17,960, 17,968 (April 23, 1996) (stating the EPA generally assumes that if a substance causes cancer at any level of exposure that it will do so at every amount except zero exposure, unless strong evidence demonstrates that there is a safe threshold); Guidelines for Carcinogen Risk Assessment, 51 Fed. Reg. 33,992, 33,997 (Sept. 24, 1986) (hereinafter 1986 Guidelines); National Emission Standards for Hazardous Air Pollutants; Policy and Procedures for Identifying, Assessing, and Regulating Airborne Substances Posing a Risk of Cancer, 44 Fed. Reg. 58,642, 58,659-60 (October 10, 1979) (hereinafter Policy and Procedures) (stating “[t]he method used to establish a margin of safety for a threshold pollutant—setting the standard somewhere below the demonstrated effects level at a point at which the absence of adverse health effects is predicted—therefore cannot be used to set standards (other than at zero) for carcinogens under section 112, since risk of cancer is believed to exist at any exposure level greater than zero”); Adam Babich, Too Much Science in Environmental Law, 28 COLUM. J. ENVTL. L. 119, 158 (2003) (stating that regulators since 1958 have usually assumed that carcinogens have no safe threshold level, that the EPA officially adopted this position in 1986, but that the Agency will consider evidence that a carcinogen has a health threshold); Leslie F. Chard III, Comment, The 1990 Clean Air Act Amendments: Section 112 Comes of Age, 59 U. CIN. L. REV. 1253, 1253 (1991) (stating assumption of scientists and the EPA that carcinogens have no safe threshold); John P. Dwyer, The Pathology of Symbolic Legislation, 17 ECOLOGY L.Q. 233, 240 (1990) (defining non-threshold pollutant); Lisa Heinzerling, The Clean Air Act and the Constitution, 20 ST. LOUIS U. PUB. L. REV. 121, 125-26 (2001) (explaining that science cannot determine whether non-threshold pollutants will cause cancer risks at very low doses); William A. Wichers et al., Regulation of Hazardous Air Pollutants Under the New Clean Air Act: Technology-Based Standards at Last, 22 ENVTL. L. REP. (ENVTL. L. INST.) 10,717, 10,718 (1992). The EPA weighs the strength of the science regarding whether a chemical is a human carcinogen, a probable human carcinogen, or merely a possible human carcinogen. 1986 Guidelines, supra, at 34,000; Babich, supra, at 157.
only above a threshold concentration. In the 1990 Amendments to the Act, Congress, in subsection 112(a)(11), expressly relied on the definition of carcinogenic effect in the EPA’s 1986 Guidelines for Carcinogenic Risk Assessment, which presumes that all carcinogens are non-threshold chemicals. As discussed in Part IV, Congress in subsections 112(d)(4) and 112(c)(9)(B)(ii) appears to have assumed that non-carcinogens alone have a threshold level. More recently, beginning in approximately 1998, some evidence suggests that only carcinogens that harm DNA have no safe threshold and that other carcinogens that harm cellular structure, but not DNA, may have a safe threshold. Congress has not amended section 112(a)(11) to reflect the possibility that some carcinogens have a threshold.

31 See, e.g., Policy and Procedures, supra note 30, at 58,659–60; Babich, supra note 30, at 157 (“For non-cancer effects, regulators’ working assumption is that there is a threshold below which exposures are completely safe, and that the government can eliminate risk by reducing exposures below observed ‘no effect’ levels.”); Cary Coglianese & Gary E. Marchant, Shifting Sands: The Limits of Science in Setting Risk Standards, 152 U. PA. L. REV. 1255, 1285 (2004) (stating that “a ‘threshold pollutant’ causes adverse effects only above a certain exposure level, designated as the threshold level. In contrast, a ‘non-threshold’ pollutant is one that may cause adverse effects at any level above zero exposure); William K. Reilly, Foreword to ROBERT D. FRIEDMAN, SENSITIVE POPULATIONS AND ENVIRONMENTAL STANDARDS, at vii (1981) (“The Clean Air Act incorporates the notion of threshold values of pollutants, levels below which there are presumed to be no adverse health effects, and requires that standards be set on the basis of the threshold, with a margin of safety.”).


33 Recently, scientists have discovered and the EPA has recognized that some carcinogens may have a “safe” threshold level if they act through “cytotoxicity” (i.e., by damaging cells) which can be reversed by regenerative cell proliferation, rather than harming non-reparable DNA. See National Primary Drinking Water Regulations: Disinfectants and Disinfection Byproducts, 63 Fed. Reg. 69,390, 69,401 (Dec. 16, 1998) (stating that the EPA may find carcinogen has safe threshold level if sufficient scientific evidence exists); Chlorine Chemistry Council v. EPA, 206 F.3d 1286, 1288 (D.C. Cir. 2000) (discussing the EPA’s findings that chloroform, a carcinogen, has a safe threshold, because it has a cytotoxic mechanism that harms cells, which are capable of regeneration, rather than harming DNA, which cannot repair itself). Some scholars observe, however, that there is still a great deal of scientific uncertainty in setting a threshold for a carcinogen. See Wendy E. Wagner, The “Bad Science” Fiction: Reclaiming the Debate Over Science in Public Health and Environmental Regulation, 66 LAW & CONTEMP. PROBS. 63, 111 (2003) (“While mechanistic studies and epidemiological research can sometimes support a ‘best’ scientific guess that there is, in fact, a threshold below which a particular carcinogen is safe, this research generally remains inconclusive. Thus, there is little scientific guidance for determining the point at which existing research satisfactorily demonstrates that there is a safe dose for a given toxin, or determining what that safe dose might be.”).

In several areas, section 112 distinguishes between non-carcinogenic or "threshold" chemicals that are presumed to have a "safe" threshold below a certain concentration and "non-threshold" chemicals or carcinogens that are presumed to cause cancer at every dose level except zero. As is discussed in Part IV.A, section 112(d)(4) distinguishes between threshold and non-threshold chemicals instead of distinguishing between carcinogens and non-carcinogens. By contrast, as is discussed in Part IV.B below, sections 112(c)(9)(B)(i) and 112(c)(9)(B)(ii) distinguish carcinogens from non-carcinogens.

B. 1970-90: The EPA Struggles to Apply the "Ample Margin of Safety" Standard

Section 112 of the 1970 Amendments to the Clean Air Act requires the EPA to establish health-based national emission standards for hazardous air pollutants (NESHAPs) that provide an "ample margin of safety" for human health. During the 1970s and 1980s, the EPA focused its section 112 regulatory efforts primarily on non-threshold carcinogens that posed the greatest dangers to the public, at least based on the scientific knowledge of that time. Because Congress in the 1970 Amendments had given little

35 See Natural Res. Def. Council v. EPA, 824 F.2d 1146, 1148 (D.C. Cir. 1987) (en banc) (defining a "non-threshold" pollutant as one that "appears to create a risk to health at all non-zero levels of emission"); National Emission Standards for Hazardous Air Pollutants; Proposed Standard for Vinyl Chloride, 40 Fed. Reg. 59,532, 59,533–34 (Dec. 24, 1975) [hereinafter Proposed 1975 Standard for Vinyl Chloride] ("The term 'non-threshold pollutant' refers to a substance which creates a risk of adverse health effects at all ambient levels (other than zero."). One can never prove without question that a chemical has no threshold because it is "impossible to scientifically prove the absence of a threshold, as one can never prove a negative." Coglianese & Marchant, supra note 31, at 1285 (quoting David L. Eaton & Curtis D. Klaassen, Principles of Toxicology, in Casarett and Doull's Toxiconology: The Basic Science of Poisons 11, 21 (Curtis D. Klaassen ed., 6th ed. 2001)).

36 42 U.S.C. § 7412(d)(4) (stating that "[w]ith respect to pollutants for which a health threshold has been established, the Administrator may consider such threshold level, with an ample margin of safety, when establishing emission standards under this subsection.").


39 Some commentators and courts would describe these standards as "risk-based." See supra note 6.

40 42 U.S.C. § 7412(b)(1)(B); Sierra Club v. EPA, 353 F.3d 976, 979 (D.C. Cir. 2004); Dwyer, supra note 30, at 237–38; Mank, supra note 7, at 267–68; McCubbin, supra note 2, at 3–4, 6–7; Reitze & Lowell, supra note 7, at 237.

41 See Natural Res. Def. Council v. EPA, 824 F.2d 1146, 1153 (D.C. Cir. 1987) (en banc) ("With the exception of mercury, every pollutant the Administrator has listed or intends to list under § 112 is a non-threshold carcinogen."); Bernard D. Goldstein & Russelyn S. Carruth, Science in the Regulatory Process: Implications of the Precautionary Principle for
or no thought to the issue of non-threshold chemicals, section 112 provided little guidance on how the EPA should apply the “ample margin of safety” standard, especially to non-threshold chemicals.

Because the EPA assumed that all carcinogens are non-threshold chemicals that pose some danger to the public health at every level of exposure except zero emissions, the agency faced the difficult question of whether section 112’s “ample margin of safety” standard required the EPA to ban all carcinogens. Because the cost of closing the numerous industries that rely on carcinogens likely outweighed the health benefits of banning all carcinogenic air toxics, the EPA during the 1970s and 1980s interpreted section 112 to authorize it to at least implicitly consider the costs and technological feasibility of regulation. Because section 112’s statutory language and legislative history did not clearly address how the EPA should balance health, cost and feasibility issues, the EPA often deliberately delayed issuing section 112 standards for air toxics for fear of judicial reversal. The EPA only regulated seven air toxics between 1970 and 1990—asbestos, beryllium, mercury, radionuclides, inorganic arsenic, benzene, and vinyl chloride—and


42 See McCubbin, supra note 2, at 6-12.

43 See 3 GERRARD, supra note 8, at § 17.06[1][a][i] (“Depending on one’s interests and point of view, one could interpret [Section 112’s] language differently. Those concerned about safety and the environment argued that an ‘ample margin of safety’ would often require zero emissions for those non-threshold pollutants that have some possibility of an adverse health impact at any exposure level above zero, while those in industry asserted that technological and economic feasibility factors should be considered.”); McCubbin, supra note 2, at 6–12 (discussing the difficulties faced by the EPA during the 1970s and 1980s in interpreting section 112); Goldberg, supra note 6, at 622.

44 See Dwyer, supra note 30, at 254–55; McCubbin, supra note 2, at 6–12.

45 See Proposed 1975 Standard for Vinyl Chloride, 40 Fed. Reg. 59,532, 59,534 (Dec. 24, 1975) (stating that section 112 might require a complete ban on emissions of non-threshold pollutants as that would be “the only emissions standard which would offer absolute safety from ambient exposure”); Chard, supra note 30, at 1253, 1255–56 (discussing the EPA’s concern from 1970 until 1990 that section 112 might require a complete banning of all non-threshold carcinogens); Dwyer, supra note 30, at 254–55; McCubbin, supra note 2, at 6–12.

46 If the Agency banned all carcinogens to eliminate all possible risks, it would have to shut down most of the chemical industry as well as all coal-burning power plants, nuclear power plants, and petroleum refineries. See Mank, supra note 7, at 268; McCubbin, supra note 2, at 8–9; Chard, supra note 30, at 1255–56.

47 See Dwyer, supra note 30, at 234–35 (arguing that during 1970s and 1980s, the EPA delayed implementing Section 112 because it believed statutory scheme was unworkable and because it feared judicial reversal); Mank, supra note 7, at 264, 267–70; McCubbin, supra note 2, at 6–10; Reitze & Lowell, supra note 7, at 238, 241–42.
the agency issued five of these regulations because of court orders.48

Despite the uncertainty regarding whether section 112 authorizes the EPA to consider the cost and technological feasibility of regulating air toxics, during the 1970s and 1980s the EPA increasingly began to consider such factors.49 Notably, between 1975 and 1985, the EPA considered cost and technological feasibility when it proposed and revised regulations for vinyl chloride.50 Vinyl chloride, a gaseous chemical used to produce polyvinyl chloride plastics, is a carcinogen known at high doses to cause liver cancer in human beings.51 In 1987, in a unanimous en banc decision written by Judge Bork, the D.C. Circuit held in Natural Resources Defense Council (NRDC) v. EPA (Vinyl Chloride)52 that section 112 did not authorize the EPA to make cost and technological feasibility the predominant considerations in setting emission standards for air toxics because health was clearly the primary factor in section 112's

48 See 1990 House Report, supra note 9, at 3175 ("In the 20 years since this section was enacted, the EPA has acted to establish standards under section 112 for seven hazardous air pollutants. This is only a small fraction of the many substances associated (at some level of concentration) with cancer, birth defects, neurological damage, or other serious health impacts."); Sierra Club v. EPA, 353 F.3d 976, 979 (D.C. Cir. 2004); Dwyer, supra note 30, at 234–35; Mank, supra note 7, at 264, 267–70; McCubbin, supra note 2, at 6–10; Reitze & Lowell, supra note 7, at 238, 241–42. The EPA listed or issued notices and health effects information on twenty-five other air toxins, but it never issued regulations regarding them. Reitze & Lowell, supra note 7, at 238.

49 See Dwyer, supra note 30, at 252–57 (discussing the EPA's increasing reliance during 1970s and 1980s on cost and technological factors when regulating air toxics under section 112); John D. Graham, The Failure of Agency-Forcing: The Regulation of Airborne Carcinogens Under Section 112 of the Clean Air Act, 35 DUKE L.J. 100, 131 (1985); Mank, supra note 7, at 269–70; McCubbin, supra note 2, at 8–10; Wichers et al., supra note 30, at 10,719; Chard, supra note 30, at 1255–56.


51 There is strong evidence that vinyl chloride causes liver cancer in human beings and some evidence that it causes cancer in the brain and the lungs. 1976 Standard for Vinyl Chloride, supra note 50, at 46,559–60; Reitze & Lowell, supra note 7, at 242.

“ample margin of safety” standard.\textsuperscript{53} However, the court rejected the NRDC’s two related contentions that section 112 requires the EPA to (1) focus on only health considerations when establishing emission standards for air toxics, and (2) adopt zero emission standards for any non-threshold carcinogens.\textsuperscript{54} Instead, the court concluded that the statute’s “ample margin of safety” language requires the EPA to prevent only significant or “unacceptable” risks, rather than any risk at all, because life in an industrialized society inevitably exposes persons to some risk.\textsuperscript{55} The court held that section 112 requires the EPA to use a two-part process. First, the agency must determine at what level of concentration a chemical poses an “acceptable risk to health.”\textsuperscript{56} This obligates the EPA to avoid significant or unacceptable risks to human health. Second, the agency can consider technological or cost factors in assessing what constitutes an “ample margin” of public safety.\textsuperscript{57} The Vinyl Chloride decision is still important today because it is the only major case to analyze section 112’s ample margin of safety standard. The 1990 Amendments still define “an ample margin of safety” in light of the statute’s pre-1990 history.\textsuperscript{58}

\textsuperscript{53} Although acknowledging that the Agency’s interpretation of section 112 deserves considerable deference because of its expertise in regulating air toxics, the court concluded that the EPA’s interpretation of and implementation of section 112 was flawed because the EPA administrator had not “exercised his expertise to determine an acceptable risk to health,” but had inappropriately “substituted technological feasibility for health as the primary consideration under Section 112.” \textit{Id.} at 1163–66 (rejecting the EPA’s primary emphasis on technology standards in regulating air toxics); Dwyer, \textit{supra} note 30, at 270–271 (discussing Vinyl Chloride court’s rejection of the EPA’s primary emphasis on technology standards in regulating air toxics); Mank, \textit{supra} note 7, at 270; Reitze & Lowell, \textit{supra} note 7, at 243.

\textsuperscript{54} Vinyl Chloride, 824 F.2d at 1152, 1154–63 (describing NRDC’s zero-risk interpretation of section 112 and rejecting it); Dwyer, \textit{supra} note 30, at 270; Reitze & Lowell, \textit{supra} note 7, at 243; see also Mank, \textit{supra} note 7, at 270.

\textsuperscript{55} Vinyl Chloride, 824 F.2d at 1164–65; Dwyer, \textit{supra} note 30, at 270 (discussing Vinyl Chloride court’s conclusion that section 112 prohibits only significant risks); Mank, \textit{supra} note 7, at 270; Reitze & Lowell, \textit{supra} note 7, at 243.

\textsuperscript{56} The court acknowledged that the EPA had significant latitude in defining “what is ‘safe’ or what constitutes an ‘ample margin.’” [The court 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.” \textit{Vinyl Chloride}, 824 F.2d at 1166.

\textsuperscript{57} \textit{Id.} at 1154–65 (requiring the EPA to follow two-part test for regulating air toxics under section 112); Dwyer, \textit{supra} note 30, at 271 (discussing \textit{Vinyl Chloride} court’s two-part test for regulating air toxics under section 112); Mank, \textit{supra} note 7, at 270; Reitze & Lowell, \textit{supra} note 7, at 243.

III. THE 1990 AMENDMENTS: TECHNOLOGY FIRST, THEN RISK-BASED

Since the EPA had regulated only seven air toxics between 1970 and 1990, there was strong support for amending section 112 when Congress sought to update and refine the Act in 1989 and 1990. The EPA supported amendments to section 112 because the Agency was unenthusiastic about implementing the Vinyl Chloride decision's complex, two-part approach of determining "acceptable" safety based solely on health factors and then considering cost and technological feasibility in assessing an "ample margin of safety."^59 During the deliberations on the 1990 Amendments to the Act, the Senate Committee on the Environment blamed section 112's use of health-based ample margin of safety standards as the reason for the EPA's record of only regulating seven air toxics. The Committee's report stated:

The law has worked poorly. In 18 years, the EPA has regulated only some sources of only seven chemicals. 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. The EPA has not been willing to write standards so stringent because they would shutdown major segments of American industry. The legislation reported by the Committee would entirely restructure the existing law, so that toxics might be adequately regulated by the Federal Government.^60

To avoid the problems with the pre-1990 version of section 112, Congress in the 1990 Amendments to the Act shifted to a two-phased approach that generally requires the EPA to first establish technology-based standards and then only later address the remaining residual risks from sources of air toxics. In Sierra Club v. EPA, the D.C. Circuit summarized the 1990 Amendments' two-phase process for regulating hazardous air pollutants (HAPs):

Congress established a two-phase approach for setting HAP emission standards under the 1990 Amendments . . . . Dur-

---


^60 1989 Senate Report, supra note 9, at 8469.
ing the first phase, EPA must promulgate technology-based emission standards for categories of sources that emit HAPs. These emission standards are to be based not on an assessment of the risks posed by HAPs, but instead on the maximum achievable control technology (MACT) for sources in each category. ("The MACT standards are based on the performance of technology, and not on the health and environmental effects of hazardous air pollutants."). The standards, at a minimum, must reflect the emissions limitation achieved by the best-performing sources in a particular category . . . . The idea is to set limits that, as an initial matter, require all sources in a category to at least clean up their emissions to the level that their best performing peers have shown can be achieved.

The second phase then returns to a risk-based analysis. That phase—which occurs within eight years after MACT standards are promulgated—requires EPA to consider whether residual risks remain that warrant more stringent standards than achieved through MACT. EPA must determine whether such standards are required "in order to provide an ample margin of safety to protect public health . . . or to prevent . . . an adverse environmental effect." ("[The Amendments] require[ ] [EPA] to protect against all significant environmental effects when setting residual risk standards in the second phase.").

A. Technology-Based Standards: MACT and GACT

The 1990 amendments to subsection 112(d) generally require the EPA to begin first with technology-based emission standards. For either new or existing "major" stationary sources of air toxics, subsection 112(d) requires the EPA to establish emissions standards based on MACT, which are standards "based on the performance of technology, and not on the health and environmental effects of hazardous air pollutants." Subsection 112(d) requires

61 Sierra Club v. EPA, 353 F.3d 976, 980 (D.C. Cir. 1980) (internal citations omitted).
63 A "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 considering 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." 42 U.S.C. § 7412(a)(1).
64 1989 Senate Report, supra note 9, at 8488; Sierra Club v. EPA, 353 F.3d 976, 980 (D.C. Cir. 2004) ("These emission standards are to be based not on an assessment of the risks posed by HAPs, but instead on the maximum achievable control technology (MACT) for sources in each category.") (citing 1989 Senate Report, supra note 9).
the Administrator to issue regulations that establish technology-based emission standards for each category or subcategory\(^\text{65}\) of major and area sources of hazardous air pollutants that have been listed for regulation under subsection 112(c).\(^\text{66}\) In issuing subsection 112(d) standards, the Administrator may distinguish among classes, types, and sizes of sources within a category or subcategory.\(^\text{67}\) Under subsection 112(d), the EPA must establish technology-based standards for both sources of either carcinogenic or non-carcinogenic air toxics, although, as Part IV discusses, there are different exceptions to MACT standards depending on whether an air toxic is carcinogenic or non-carcinogenic.\(^\text{68}\)

Pursuant to subsection 112(d)(2), the Administrator must set MACT technology-based emission standards to achieve the "maximum" degree of emission reductions that are achievable for sources in the category or subcategory. However, the Agency may also consider the cost of achieving such emission reductions, especially for existing sources.\(^\text{69}\) For new sources in a category or subcategory, the EPA must set MACT emission standards to be no less stringent than the emission control that is achieved in practice by the best-controlled similar source.\(^\text{70}\) Although MACT is a stringent standard that requires each source category to make substantial reductions in their emissions from uncontrolled levels, the legislative history of the 1990 Amendments indicates that Congress in 1990 did not intend MACT emission standards to cost so much that numerous sources or industries must shut down.\(^\text{71}\)

The process for setting technology-based standards for existing sources of air toxics consists of two steps. First, the EPA finds the minimum MACT "floor" by examining the performance of the best performing sources in a category. Second, the EPA sets even more stringent standards if they are achievable in light of costs and other factors:

\(^{65}\) The EPA maintains a current list of all categories and subcategories of MACT sources in 40 C.F.R. § 63.1(a)(6). See also Agency's Unified Air Toxics Website: Source Category List and Promulgation Schedule (Mar. 30, 2005), http://www.epa.gov/ttn/atw/socatlst/socatpg.html (last visited Dec. 18, 2005); 3 Gerrard, supra note 8, at § 17.06[3][a] (discussing how Section 112 and the EPA define term "source category" of air toxics).

\(^{66}\) 42 U.S.C. §§ 7412(d)(1)–(2).

\(^{67}\) 42 U.S.C. §§ 7412(d)(1).

\(^{68}\) Id.

\(^{69}\) The House Report states that "consideration of cost should be based on an evaluation of the cost of various control options." 1990 House Report, supra note 9, at 3352; Frank P. Grad, Treatise on Environmental Law § 2.03[15][c] n.27 (2004).

\(^{70}\) 1990 House Report, supra note 9, at 3352; Grad, supra note 69, at § 2.03[15][c] n.29.

\(^{71}\) 1990 House Report, supra note 9, at 3352; Grad, supra note 69, at § 2.03[15][c] n.27.
Step one requires EPA to establish what has come to be known as the MACT floor—the minimum level of reduction required by statute. For existing sources, EPA sets the MACT floor at “the average emission limitation achieved by the best performing 5 sources” in a category “with fewer than 30 sources.” Once EPA has set the MACT floor, it may then impose stricter standards—so-called “beyond-the-floor” limits—if the Administrator determines them to be achievable after “taking into consideration the cost . . . and any non-air quality health and environmental impacts and energy requirements.” . . . These “beyond-the-floor” limits in phase one under Section 7412(d)(2) are distinct from the risk-based limits to be set eight years later under Section 7412(f)(2) during phase two.72

For existing sources that are part of categories or subcategories with thirty or more sources, subsection 112(d)(3)(A) requires the EPA to set a MACT floor standard that is at least as stringent as the average emission limitation achieved by the best performing twelve percent of the existing sources in the category or subcategory.73 For categories and subcategories of existing sources with fewer than thirty sources, subsection 112(d)(3)(B) requires the EPA to promulgate a MACT floor emission standard that is at least as stringent as the average emission limitation achieved by the best performing five sources for the category or subcategory.74 Pursuant to subsection 112(d)(7), however, any source subject to a more stringent emission limitation or requirement under other provisions of the Clean Air Act or a state authority may not substitute a MACT standard that would be less stringent.75 Additionally, at least every eight years, the Administrator must review and revise as necessary the MACT emissions standards promulgated under subsection 112(d).76

---

72 Sierra Club v. EPA, 353 F.3d 976, 980 (D.C. Cir. 2004) (internal citations omitted).
73 The statute excludes from this calculation any sources that have achieved the stringent Lowest Achievable Emission Rate (LAER). This applies to major new or modified sources of criteria pollutants in non-attainment areas, within eighteen months before the Agency proposes a MACT emission standard or within thirty months before the Agency adopts a MACT standard. 42 U.S.C. § 7412(d)(3). The Lowest Achievable Emission Rate (LAER), which applies to major new or modified sources of criteria pollutants in non-attainment areas, is defined in section 171 of the Clean Air Act, 42 U.S.C. § 7501(3)(A).
75 42 U.S.C. § 7412(d)(7); GRAD, supra note 69, at § 2.03[15][c]; Garrett & Winner, supra note 12, at 10,248.
76 42 U.S.C. § 7412(d)(6); GRAD, supra note 69, at § 2.03[15][c].
Not all sources of air toxics require MACT. For smaller "area" sources of air toxics, which are not major sources because they emit less than twenty-five tons of air toxics per year and also less than ten tons per year of any single air toxic,\(^77\) the Administrator may promulgate emissions standards based on generally available control technologies (GACT) or management practices.\(^78\) Emissions standards based on GACT may be less stringent than those for major new or existing sources governed by MACT.\(^79\) Unlike MACT standards, the EPA has more discretion in setting GACT standards because the Agency does not have to use the best existing sources to define a floor or minimum level of stringency for GACT.\(^80\) As discussed below in Part VI.C.4, the EPA enjoys greater discretion in delisting area sources of carcinogens and non-carcinogens from GACT or otherwise applicable emission standards than it does in delisting major sources of carcinogens.\(^81\)

**B. Section 112(f)'s Residual Risk Program**

Section 112(f) of the Act provides for a second phase of health-based "residual risk" emission standards more stringent than MACT if the technology-based standards for a source category or subcategory fail to provide adequate protection to human health or the environment.\(^82\) Pursuant to Section 112(f)(2)(A), within eight years after the Agency promulgates a MACT standard for a source category or subcategory, the EPA is required to determine whether remaining air toxic emissions from MACT-controlled sources in the category or subcategory pose an unacceptable risk to human health.\(^83\) What is most important for the purposes of this article is that the residual risk standards focus on carcinogens, and barely mention threshold chemicals. The residual risk provisions are yet another portion of section 112 that treats carcinogens differently from non-carcinogens.

If, after the EPA has implemented MACT, any source in a source category poses a cancer risk greater than one-in-one-million

---

\(^{77}\) 42 U.S.C. § 7412(a)(2) (defining area source).

\(^{78}\) 42 U.S.C. § 7412(d)(5).

\(^{79}\) Id.; GRAD, supra note 69, at § 2.03[15][c].


\(^{81}\) See infra notes 199–204 and accompanying text.

\(^{82}\) See 42 U.S.C. §7412(f).

\(^{83}\) See 42 U.S.C. § 7412(f)(2)(A); Mank, supra note 7, at 264–67, 275–77 (discussing section 112(f)'s residual risk program); McCubbin, supra note 2, at 2–6, 37–42, 47–49; Novello, supra note 80, at 61.
to the maximally exposed individual, the EPA must promulgate health-based "residual risk" emission standards to supplement the technology-based standards that are adequate "to provide an ample margin of safety to protect public health in accordance with this section (as in effect before 1990) or to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect." Subsection 112(f)(2)(A) explicitly states that the EPA should use the "ample margin of safety" standard in effect before November 15, 1990 as the minimum standard for any residual risk emission standards. Accordingly, the D.C. Circuit's 1987 Vinyl Chloride decision is still relevant in defining the meaning of "ample margin of safety" for the public health.

Subsection 112(f)(2)(A) contains a specific risk trigger for carcinogens that requires the EPA to promulgate health-based emission standards providing an "ample margin of safety" if the MACT standards do not "reduce lifetime excess cancer risks to the individual most exposed to emissions from a source in the category or subcategory to less than one-in-one-million." The statute's one-in-one-million risk standard is a "trigger" requiring the EPA to take further regulatory action. However, the EPA probably has the discretion to use a less stringent risk standard for any residual risk emission standards, perhaps even a standard of one-in-ten-thousand lifetime cancer risk. The conference report for the 1990 amendments refers to the Vinyl Chloride decision and the Agency's 1989 benzene rulemaking, which used a one-in-ten-thousand lifetime excess cancer risk as the maximum allowable risk, as models for the EPA's creation of residual risk standards. Subsection 112(f)(2)(B) states that the amended section 112 does not affect

---

85 Id.
86 Vinyl Chloride, 824 F.2d at 1146.
88 See McCubbin, supra note 2, at 18–20, 25–26, 37–38, 42, 46–49 (discussing section 112(f)'s residual risk program's one-in-one-million cancer risk as trigger for the EPA to take regulatory action and the legislative history's discussion of benzene rulemaking's one-in-ten-thousand standard as model for regulatory action).
90 The Conference Report stated:
the EPA's pre-November 15, 1990 interpretation of "this section" that is "set forth in the Federal register of September 14, 1989 (54 Federal Register 38044)," which is the benzene rulemaking. In the 1989 Benzene NESHAP, the EPA did not use a one-in-one-million standard to protect the individual most exposed to emissions, but rather used a presumption that a one-in-ten-thousand lifetime excess cancer risk for the maximum individual lifetime cancer risk (MIR) from a particular chemical was acceptable. Furthermore, in the 1989 Benzene NESHAP, the EPA stated that it would examine other health and risk factors besides the one-in-ten-thousand lifetime excess cancer risk to the maximally exposed individual in deciding whether to adopt more stringent emission requirements. In 1989, the EPA required sources emitting radionuclides to limit the risk to ninety percent of the people within eighty kilometers of a source to a one-in-one million lifetime risk of cancer, and proposed a similar standard for some benzene sources. Similarly, the EPA stated that its residual standards

In the first step of [its] analysis, the [EPA] Administrator must determine a safe or acceptable level of risk considering only health factors. In the second step, the Administrator may consider cost, feasibility or other relevant factors in addition to health in order to set a standard to provide an "ample margin of safety." This approach is required under the decision of the U.S. Court of Appeals in [Vinyl Chloride] (interpreting section 112 as in effect prior to these Amendments), and is set forth in the rulemaking on emissions standards for benzene, 54 Fed. Reg. 38,044 (Sept. 14, 1989).


92 See 1989 Benzene NESHAP, supra note 89, at 38,044–38,046 (using a historical risk survey to set a "presumptive level" of maximum acceptable individual risk at one-in-ten-thousand); Dwyer, supra note 30, at 276 (discussing one-in-ten-thousand risk level); Mank, supra note 7, at 270–71, 276; Reitze & Lowell, supra note 7, at 245.

93 These factors include: (1) the overall incidence of cancer or other serious health effects within the exposed population, (2) the number of persons exposed within each individual lifetime range (such as a 50-kilometer exposure radius around the emitting facilities), (3) the science and policy assumptions and estimation uncertainties associated with the risk measures, (4) the weight of the scientific evidence for human health effects, (5) other quantified or unquantified health effects, and (6) the effects resulting from co-location of facilities and co-emission of pollutants. 1989 Benzene NESHAP, supra note 89, at 38,045–46; Mank, supra note 7, at 276 n.60.

94 See National Emission Standards for Hazardous Air Pollutants; Radionuclides, 54 Fed. Reg. 51,654, 51,655 (Dec. 15, 1989) (requiring radionuclide sources to limit risk to ninety percent of population within eighty kilometers to one-in-one-million lifetime cancer...
will go beyond the one-in-ten-thousand standard where cost-effective technology is available and seek to protect "the greatest number of persons possible" under a one-in-one-million standard.\(^{95}\)

Section 112(f) does not explicitly address non-cancer risks. However, the EPA probably has an implicit duty under the statute to reduce residual risks from non-cancer causing chemicals that pose serious risks. This implicit duty is based on section 112(f)(2)'s general requirement that the EPA establish emission standards that provide "an ample margin of safety" as defined by section 112 before 1990 and additional language that authorizes the Agency to issue more stringent standards than those used before 1990 if they are necessary "to prevent . . . an adverse environmental effect."\(^{96}\) Nevertheless, subsection 112(f)(2) is far less specific about non-cancer risks than cancer risks and is an example of Congress regulating carcinogenic air toxics differently from non-carcinogenic pollutants.

IV. EXCEPTIONS TO MACT: THRESHOLD POLLUTANTS AND DELISTING

During the debates on the 1990 Amendments, Senator Durenberger (D-Minnesota) stated that the EPA may promulgate residual risk standards under subsection 112(f) only if it seeks to impose standards more stringent than MACT standards.\(^{97}\) However, he also recognized that the EPA could exempt low-risk sources from MACT standards under either subsection 112(d)(4), risk) (to be codified at 40 C.F.R. pt 61); Mank, supra note 7, at 276 n.59; Reitze & Lowell, supra note 7, at 245; see also National Emission Standards for Hazardous Air Pollutants; Benzene Emissions From Chemical Manufacturing Process Vents, Industrial Solvent Use, Benzene Waste Operations, Benzene Transfer Operations, and Gasoline Marketing System, 54 Fed. Reg. 38,083, 38,091 (Sept. 14, 1989) ("The majority of the people (greater than 99.9 %) exposed to benzene emissions from this category would be exposed to risk levels lower than [one-in-one-million].")


\(^{96}\) See 42 U.S.C. § 7412(f)(2); Mank, supra note 7, at 289–90 (observing that section 112(f)'s residual risk program is less specific about addressing risks of non-carcinogens).

which provides a narrow exception to MACT and residual risk standards for sources releasing threshold air toxics, or subsection 112(c)(9)(B)’s delisting process, which is the only exemption that can apply to carcinogens.  

The Administrator is to replace the technology standards for a source category, only if it is necessary to protect health with a more stringent standard. This bill does not authorize the Administrator to relax the standards established under subsection (d) for a category by establishing standards under subsection (f). With respect to the pollutants for which a safe threshold can be set, the authority to set a standard less stringent than maximum achievable control technology is contained in subsection (d)(4). With respect to carcinogens and other non-threshold pollutants, no such authority exists in subsection (d) or in any other provision of the Act. There is no safe level of exposure for these pollutants. And there is no possibility under the two-step decisionmaking procedures established by the Court in the vinyl chloride case for EPA to set a standard less stringent than is already being achieved by sources in the category under subsection (d). Any such interpretation is entirely inconsistent with the ample margin of safety test which is a mandatory second step in a standard-setting regime which most definitely includes both steps.

No postponements or exceptions are available regarding standards under subsection (f) for reasons of voluntary reductions or for any other reason not expressly authorized by the statute. Risk assessments may not be used to postpone, lessen the stringency of, or gain an exception from any standard issued under subsection (d) (or any alternative emission limit adopted pursuant to a voluntary reduction or for any other reason), except as provided by subsection 112(c)(9)(B)(i).

As is discussed below in Subparts A and B, section 112 provides for alternative standards or delisting exceptions to MACT risk standards under subsection 112(d)(4)’s “ample margin of safety” standard for threshold pollutants and subsection 112(c)(9)(B)’s delisting process for both carcinogens and non-carcinogens.

98 Id.
99 Id.
100 Id.
A. Section 112(d)(4): Threshold Pollutants May Use an “Ample Margin of Safety” Standard Instead of MACT

“With respect to pollutants for which a health threshold has been established,” subsection 112(d)(4) states that the EPA “Administrator may consider such threshold level, with an ample margin of safety, when establishing emission standards under this subsection.” For threshold chemicals, subsection 112(d)(4) implies that the EPA may substitute either new or pre-1990 health-based emission standards providing an “ample margin of safety” to the public health in lieu of MACT technology-based standards. In a recent article, Professor McGarity concludes that subsection 112(d)(4) likely allows the EPA to exempt threshold air toxics from MACT if the Agency can establish an emissions standard that will provide an ample margin of safety. That said, he acknowledges that the language of the statute is not conclusive. Citing subsection 112(d)(4), he argues:

The 1990 amendments to the Clean Air Act require EPA to establish NESHAPs for stationary sources reflecting the maximum achievable control technology (MACT) for emitters of hazardous air pollutants, a standard which rather clearly represents a best efforts goal. In the case of carcinogens, these standards must be met even if compliance reduces the risks to exposed individuals to extremely low levels. The statute allows the agency to consider established health thresholds for pollutants for which such thresholds have been established, along with an ample margin of safety. This suggests—but only very vaguely—that Congress may have adopted a mixed strategy with respect to sources that emit threshold pollutants. Maximum achievable technology may not be required if something less will ensure human exposures below the threshold level plus an ample margin of safety.

It is notable that Congress in the 1990 Amendments authorized the EPA to use “ample margin of safety” emission standards for

---

101 42 U.S.C. § 7412(d)(4) ("[w]ith respect to pollutants for which a health threshold has been established, the Administrator may consider such threshold level, with an ample margin of safety, when establishing emission standards under this subsection.").

102 See Rodgers, supra note 58, at § 3.1E(A) (stating 1990 Amendments to Act generally left the EPA with authority to use pre-1990 emission standards and “ample margin of safety” standard in lieu of technology-based standards).


104 Id. at 548–49 (citing subsection 112(d)(4)) (internal citations omitted).
threshold pollutants, which in 1990 were generally assumed to include only non-carcinogens. However, Congress did not give the Agency similar discretion with respect to non-threshold pollutants, which in 1990 were generally believed to include all carcinogens.  

The Senate Report addressing the 1990 Amendments provides the most clear explanation for the EPA’s authority to use a less stringent health-based standard under Section 112(d)(4) in lieu of MACT standards. The Senate Report explains:

For some pollutants a MACT emissions limitation may be far more stringent than is necessary to protect public health and the environment. For some of the hazardous air pollutants listed under subsection (b) it is possible to establish a “no observable effects level” (NOEL) below which human exposure is presumably “safe”... To avoid expenditures by regulated entities which secure no public health or environmental benefit, the Administrator is given discretionary authority to consider the evidence for a health threshold higher than MACT... The Administrator is not required to take such factors into account; that would jeopardize the standard-setting schedule imposed under this section with the kind of lengthy study and debate that has crippled the current program. But where health thresholds are well-established, for instance in the case of ammonia, and the pollutant presents no risk of other adverse health effects, including cancer, for which no threshold can be established, the Administrator may use the threshold with an ample margin of safety (and not considering cost) to set emissions limitations for sources in the category or subcategory. Employing a health threshold or safety level rather than the MACT criteria to set standards shall not result in adverse environmental effects which would otherwise be reduced or eliminated.  

---

105 See supra notes 30–31 and accompanying text (discussing 1990 assumption that all carcinogens were non-threshold chemicals and only non-carcinogens generally possessed a “safe” threshold).

106 S. REP. NO. 228, at 171 (1989); 1 JOHN-MARK STENSVAAAG & CRAIG N. OREN, CLEAN AIR ACT: LAW AND PRACTICE § 11.12 (1991) (concluding that pursuant to subsection 112(d)(4), “[t]he 1990 amendments indicate that the EPA may sometimes establish routine emission standards more lenient than the levels that would otherwise be achieved by implementing MACT.”); Wichers et al., supra note 30, at 10,722 (“The Senate Report suggests that the relevant MACT performance standard could be relaxed if the HAP has a clearly defined threshold below which no adverse health effects are observed, and no adverse environmental effects are otherwise increased or prolonged.”) (citing S. REP. NO. 228, supra, at 171).
For the purposes of this article, it is significant that subsection 112(d)(4) treats threshold non-carcinogens differently from non-threshold carcinogens by providing a potential exemption from MACT for threshold chemicals, but not for non-threshold chemicals.  

B. The EPA's Authority to Delist Under Subsection 112(c)(9)(B)

I. Statutory Language

In response to a petition by any person or the Administrator's own motion, subsection 112(c)(9)(B) authorizes the Administrator to delete a category or, sometimes, a subcategory of sources from the list of categories subject to MACT emission standards if all sources within the category or subcategory are below certain risk levels. The EPA must approve or deny a petition under subsec-

---


108 Section 112(c)(9)(B) states in full:

The Administrator may delete any source category from the list under this subsection, on petition of any person or on the Administrator's own motion, whenever the Administrator makes the following determination or determinations, as applicable:

(i) In the case of hazardous air pollutants emitted by sources in the category that may result in cancer in humans, a determination that no source in the category (or group of sources in the case of area sources) emits such hazardous air pollutants in quantities which may cause a lifetime risk of cancer greater than one-in-one-million to the individual in the population who is most exposed to emissions of such pollutants from the source (or group of sources in the case of area sources).

(ii) In the case of hazardous air pollutants that may result in adverse health effects in humans other than cancer or adverse environmental effects, a determination that emissions from no source in the category or subcategory concerned (or group of sources in the case of area sources) exceed a level which is adequate to protect public health with an ample margin of safety and no adverse environmental effect will result from emissions from any source (or from a group of sources in the case of area sources).

The Administrator shall grant or deny a petition under this paragraph within 1 year after the petition is filed.

42 U.S.C. §§ 7412(c)(9)(B); see PCWP Rule, supra note 18, at 45,983 (explaining the difference between the EPA's deletion of categories or subcategories from MACT rules under subsection 112(c)(9) and Agency's authority to issue health-based standards providing an ample margin of safety pursuant to subsection 112(d)(4)); GERRARD, supra note 8, at § 17.06[3][c]; GRAD, supra note 69, at § 2.03[15][c]; Garrett & Winner, supra note 12, at 10,247; Wichers et al., supra note 30, at 10,725.
tion 112(c)(9)(B) within one year of its filing. In reconciling subsection 112(c)(9)(B) with subsection 112(d)’s MACT standards, Professor McGarity concludes that Congress adopted a “mixed strategy” that is primarily based on technology standards, but that also contains a “risk concession” for low-risk sources.

Subsection 112(c)(9)(B) explicitly employs different approaches for categories emitting carcinogens and categories releasing noncarcinogens. For source categories that emit carcinogens, subsection 112(c)(9)(B)(i) states that the Administrator may delete a “category” if she “determin[es] that no source in the category (or group of sources in the case of area sources) emits such hazardous air pollutants in quantities which may cause a lifetime risk of cancer greater than one-in-one-million to the individual in the population who is most exposed to emissions of such pollutants from the source (or group of sources in the case of area sources).” Subsection 112(c)(9)(B)(i) does not mention the term, “subcategory.”

Similarly, subsection 112(c)(9)(B) only explicitly refers to the deletion of an entire source category and does not mention the deletion of subcategories. By contrast, subsection 112(c)(9)(B)(ii) states that “[i]n the case of hazardous air pollutants that may result in adverse health effects in humans other than cancer or adverse environmental effects,” the Administrator may delete a “category or subcategory” of sources if she determines that “emissions from no source in the category or subcategory concerned (or group of

109 42 U.S.C. § 7412(c)(9)(B); 3 GERRARD, supra note 8, at § 17.06[3][c]; Wichers et al., supra note 30, at 10,725.
110 Professor McGarity’s full explanation states:
EPA may delete a category of sources of one or more hazardous pollutants from the list of categories, and thereby avoid the maximum achievable control technology requirement for that category, if certain risk-based conditions are met for all sources in the category. In the case of threshold pollutants, EPA must find that emissions from no source in the category will exceed “a level which is adequate to protect public health with an ample margin of safety and no adverse environmental effect will result.” In the case of nonthreshold pollutants, EPA must find that no source in the category emits hazardous pollutants “in quantities which may cause a lifetime risk of cancer greater than one-in-one-million to the individual in the population who is most exposed to emissions from the source.” Thus, for such categories subject to deletion from the list, Congress has articulated a mixed strategy that is technology-based with a risk concession. McGarity, supra note 103, at 549 (citing subsection 112(c)(9)(B)) (footnotes omitted).
111 See 42 U.S.C. § 7412(c)(9)(B)(i) (emphasis added); 3 GERRARD, supra note 8, at § 17.06[3][c]; GRAD, supra note 69, at § 2.03 n.22; Garrett & Winner, supra note 12, at 10,247; Wichers et al., supra note 30, at 10,725.
sources in the case of area sources) exceed a level which is adequate to protect public health with an ample margin of safety and no adverse environmental effect will result from emissions from any source . . . ." 114 Accordingly, subsection 112(c)(9)(B)(ii) explicitly authorizes the EPA to delist either a source category or subcategory of sources emitting non-carcinogens if the Agency concludes that (1) it can set an emission standard providing an ample margin of safety for human health from all sources in the category or subcategory and (2) no source in the category or subcategory will pose an adverse effect on the environment if it is exempted from MACT standards.

A crucial issue is whether subsection 112(c)(9)(B)(i) provides the EPA with the authority to delist both subcategories and categories of sources emitting carcinogens or only entire categories of sources. This question has important practical application because, for instance, the EPA claims that approximately one-half of PCWP sources are low-risk, but acknowledges that some pose a high risk of cancer. 115 Subsection 112(c)(9)(B)(i) and (ii) are similar in that both require that all the sources in a category (or a subcategory under Subsection 112(c)(9)(B)(ii)) that is being delisted must meet the applicable risk threshold if the Administrator is to exempt that category or subcategory. 116 Accordingly, because all sources in either a subcategory or category must be "low-risk" in order for the EPA to delist that subcategory or category, the EPA can not delist the entire PCWP category because some PCWP sources are high-risk. Rather, the Agency can only delist a subcategory of "low-risk" PCWP sources if Subsection 112(c)(9)(B)(i) authorizes the EPA to delist a subcategory of carcinogenic sources. Parts V and VI will address whether the EPA may place the low-risk PCWP facilities in a separate subcategory and then delist them.

114 42 U.S.C. § 7412(c)(9)(B)(ii) (emphasis added); 3 Gerrard, supra note 8, at § 17.06[3][c]; Grad, supra note 69, at § 2.03; Garrett & Winner, supra note 12, at 10,247; Wichers et al., supra note 30, at 10,725.

115 PCWP Rule, supra note 18, at 45,956.

116 See PCWP Rule, supra note 18, at 45,983 (explaining the difference between the EPA's deletion of categories or subcategories from MACT rules under subsection 112(c)(9) and Agency's authority to issue health-based standards providing an ample margin of safety pursuant to subsection 112(d)(4)).
V. THE PCWP RULE: THE EPA'S USE OF SUBSECTION 112(c)(9)(B) TO DELIST A SUBCATEGORY OF LOW-RISK CARCINOGENIC SOURCES FROM MACT STANDARDS

A. Summary of the PCWP Rule

The PCWP rule applies to approximately 223 facilities that manufacture plywood, veneer, particleboard, fiberboard or other composite wood products. According to the EPA's calculations, the PCWP rule will reduce emissions of several air toxics—acetaldehyde, acrolein, formaldehyde, methanol, phenol, propionaldehyde and others—by at least 6,600 tons and as much as 11,000 tons per year (approximately 35 to 58 percent lower than 1997 levels). The EPA estimated that the total annual costs for the PCWP industry to comply with the rule could be as high as $140 million per year, but the Agency suggested that the deletion of about 147 “low-risk” PCWP sources from MACT would reduce the annual cost to about $74 million. The total cost would vary in relationship to the number of facilities qualifying under the subsection 112(c)(9)(B) deletion provision.

It will be helpful to review the Rule’s process for delisting facilities. If an individual PCWP facility can demonstrate that it emits relatively low amounts of carcinogens, especially acrolein or formaldehyde, which are the most important carcinogens typically released by PCWP facilities, the EPA will use its alleged authority under subsection 112(c)(9)(B)(i) to “delist” that facility from the PCWP category’s MACT standards and place it instead in a separate low-risk subcategory of PCWP sources that are not subject to MACT. Each PCWP source has the burden of demonstrating that it is low-risk. To qualify for the subsection 112(c)(9)(B)(i) exempt subcategory, each PCWP source must submit a risk assessment showing that the source is low-risk as defined by the PCWP rule. A source can either use “look-up tables” in Appendix B of subpart DDDD of the rule, or use data from site-specific modeling to demonstrate that it is low-risk. The EPA stated:

117 PCWP Rule, supra note 18, at 45,955.
118 Id.
119 Id.
120 Id.
121 Id. at 45,953–56, 45,983–91, 45,995–96, 45,998–99, 46,040–45; see also 42 U.S.C. § 7412(c)(9)(B)(i).
123 Id. at 45,946, 45,953–54, 45,991–46,007, 46,040–43.
Today's final PCWP rule provides two ways that an affected source may demonstrate that it is part of the low-risk subcategory of PCWP affected sources. First, look-up tables allow affected sources to determine, using a limited number of site-specific input parameters, whether emissions from their sources might cause a hazard index (HI) limit for noncarcinogens or a cancer benchmark of one in a million to be exceeded. Second, a site-specific modeling approach can be used by those affected sources that cannot demonstrate that they are part of the low-risk subcategory using the look-up tables.\textsuperscript{124}

The EPA has estimated that approximately 147 of the 223 PCWP sources in the PCWP MACT category may qualify for the subsection 112(c)(9)(B)(i) "low-risk" exception.\textsuperscript{125}

B. Public Comments on Delisting a Subcategory of Carcinogens

One commenter on the proposed PCWP rule argued that the absence of the term "subcategories" in subsection 112(c)(9)(B)(i) implied that Congress intended to prohibit the Administrator from delisting subcategories of sources emitting carcinogens under subsection 112(c)(9)(B).\textsuperscript{126} That commenter contended that the distinction between threshold and non-threshold sources is consistent with 112(c)(9)(B)(i)'s requirement of a higher standard of proof to delist categories that emit carcinogens.\textsuperscript{127} They also asserted that subsection 112(c)(9)(B)(i)'s requirement that no source in a category pose greater than a one-in-one-million lifetime cancer risk for the most exposed individual is "a higher and more specific standard" than the standard for deleting categories or subcategories of non-carcinogenic air toxics under subsection 112(c)(9)(B)(ii), which simply requires an "ample margin of safety."\textsuperscript{128}

Other commenters, however, argued that the EPA should construe the statute to allow it to delete categories or subcategories under either subsections 112(c)(9)(B)(i) or (ii).\textsuperscript{129} They noted that section 112(c)(1) generally gives the EPA broad authority in defining categories and subcategories of sources.\textsuperscript{130} One commenter argued that Congress had used the terms category and subcategory

\textsuperscript{124} Id. at 45,984, 46,040–45.
\textsuperscript{125} Id. at 45,956.
\textsuperscript{126} Id. at 45,987.
\textsuperscript{127} Id.
\textsuperscript{128} Id.
\textsuperscript{129} Id.
\textsuperscript{130} Id.
interchangeably throughout section 112, and therefore, that one should interpret subsection 112(c)(9)(B)(i) as authorizing the EPA to delist either a category and subcategory of sources.131

C. The EPA’s Argument That the Agency Has Broad Discretion to Define Categories or Subcategories Under Section 112

1. The Agency’s Broad Discretion Argument

In the PCWP rule, the EPA argued that various provisions of section 112 gave it broad discretion to define which sources comprise a category or subcategory, and therefore, to classify sources as either a category or subcategory.132 In particular, the EPA relied on two provisions of section 112 that give the agency broad discretionary authority: (1) subsection 112(d)(1), which authorizes the EPA to distinguish among classes, types, and sizes of sources within a category and (2) subsection 112(c)(1), which authorizes the Agency to revise, "when appropriate," but at least every eight years, its list of categories and subcategories of major sources and area sources. Subsection 112(c)(1), however, encourages the Agency "to the extent practicable" to make its section 112 list consistent with its "list of source categories published pursuant to section 111 of this Title."133

Some commenters to the draft PCWP Rule argued that either subsection 112(c)(1) or 112(c)(9)(B) requires the EPA to base categories and subcategories on traditional criteria such as differences in output, products, processes or technology, and that risk is not an appropriate basis for distinguishing among categories or subcategories.134 In the final PCWP Rule, the EPA acknowledged that the Agency’s past practice was to base subcategories and categories on engineering factors and not risk, stating: "We do not contend that the CAA specifically directs us to establish categories and subcategories of HAP sources based on risk, and we recognize that, at the time of the 1990 CAA Amendments, Congress may have assumed that we would generally base categories and subcategories on the traditional technological, process, output, and product factors that had been considered under CAA section 111."135 The EPA argued, however, that it was not bound by subsections 112(c)(1) or 112(c)(9) to use traditional categories and could base a subcategory

131 Id.
132 Id. at 45,946, 45,984–85, 45,986–91.
133 Id. at 45,984 (discussing 42 U.S.C. §§ 7412(c)(1), (d)(1)).
134 See PCWP Rule, supra note 18, at 45,987–90.
135 Id. at 45,989.
on risk-based factors.\textsuperscript{136} Although subsection 112(c)(1) states that the EPA should try to make the section 112 list of source categories and subcategories consistent with the section 111 list, section 112(c)(1) also concludes that this goal of making the two lists consistent does not "limit[] the Administrator’s authority to establish subcategories under this section, as appropriate."\textsuperscript{137} Accordingly, the EPA argued:

Therefore, by its plain terms, section 112(c)(1) does not preclude basing subcategories on criteria other than those traditionally used under section 111 before 1990, or those used after 1990 for sections 111 and 112. Moreover, while after 1990 we have principally used the traditional criteria to define categories and subcategories, such use in general does not restrict how we may define a subcategory in a specific case, "as appropriate," since each HAP-emitting industry presents its own unique situation and factors to be considered.\textsuperscript{138}

An important question is whether the EPA’s discretion to define categories and subcategories under subsections 112(c)(1) and 112(d)(1) applies as well to 112(c)(9)(B)(i), which refers only to the term "category," but does not mention the term "subcategory." In light of its broad discretion under section 112 to define which sources comprise a category or subcategory, the EPA argued that it has implied authority under subsection 112(c)(9)(B)(i) to delist a subcategory of sources emitting carcinogens from MACT standards despite the absence of explicit language in that subsection providing such authority.\textsuperscript{139} The Agency stated:

Section 112(c)(9) of the CAA allows us to delete categories and subcategories from the list of HAP sources to be subject to MACT standards under section 112(d) of the CAA, if certain substantive criteria are met. (The EPA construes this authority to apply to listed subcategories because doing so is logical in the context of the general regulatory scheme established by the statute, and is reasonable since section 112(c)(9)(B)(ii) expressly refers to subcategories.) To delete a category or subcategory the Administrator must make an initial demonstration that no source in the category or subcategory: (1) Emits carcinogens in amounts that may result in a lifetime cancer risk exceeding one in a million to

\textsuperscript{136} Id. at 45,989–90.
\textsuperscript{137} 42 U.S.C. § 7412(c)(1).
\textsuperscript{138} PCWP Rule, supra note 18, at 45,989 (internal citation omitted).
\textsuperscript{139} See id. at 45,944, 45,946, 45,984–85, 45,986–91.
the individual most exposed; (2) emits noncarcinogens in amounts that exceed a level which is adequate to provide an ample margin of safety to protect public health; and (3) emits any HAP or combination of HAP in amounts that will result in an adverse environmental effect, as defined by section 112(a)(7) of the CAA.140

2. Problems With the EPA’s Claim of Broad Discretion Under Subsections 112(c)(1) and 112(d)(1)

There are several problems with the EPA’s interpretation that its discretion under subsections 112(c)(1) or 112(d)(1) to define categories or subcategories implies that it has similar discretion under subsection 112(c)(9)(B)(i).141 In particular, subsection 112(c)(9)(B)(i)’s plain reference to the term “category” but omission of the term “subcategory” raises serious questions about the extent of the EPA’s authority to delist a subcategory of carcinogenic sources.142 Neither subsection 112(c)(1) nor 112(d)(1) purported to expand the EPA’s authority under subsection 112(c)(9)(B)(i).143

Although subsection 112(d)(1)’s first clause authorizes the EPA to “distinguish among classes, types, and sizes of sources within a category or subcategory in establishing [emission] standards . . . ,” the statute’s second clause plainly states that the provision does not authorize the EPA to take actions that cause delay in the compliance date for any standard applicable to any source under subsection 112(i).144 Because the PCWP rule effectively delays the compliance date for all low-risk sources, the EPA’s decision to delist a subcategory of PCWP “low-risk” sources arguably contradicts the no-delay command of subsection 112(i).145 Furthermore, the first clause of subsection 112(d)(1) authorizes the EPA to “distinguish among classes, types, and sizes of sources within a category or subcategory in establishing [emission] standards . . . ,” but does not authorize the Agency to exempt individual sources from emission standards by placing them into an exempt category or subcategory.146

140 Id. at 45,946.
141 See PCWP Petition for Reconsideration, supra note 22, at 34–35.
142 Id.
143 See id. at 36.
144 See id. at 35 (citing 42 U.S.C. § 7412(d)(1)(i)).
145 See id. at 35–36 (citing 42 U.S.C. § 7412(i)).
146 See id. at 37 n.83 (citing 42 U.S.C. § 7412(d)(1)).
Moreover, by exempting "low-risk" sources, the PCWP Rule arguably violates the command in subsections 112(c)(2) and 112(d)(1) that the Agency promulgate emission standards for all major sources of air toxics. Subsection 112(c)(2) states that, "[f]or the categories and subcategories the Administrator lists, the Administrator shall establish emissions standards under subsection (d) of this section, according to the schedule in this subsection and subsection (e) of this section." Similarly, subsection 112(d)(1) states that "[t]he Administrator shall promulgate regulations establishing emission standards for each category or subcategory of major sources and area sources of hazardous air pollutants listed for regulation pursuant to subsection (c) and (e) of this section." By indefinitely delaying the imposition of emission standards for "low-risk" sources, the PCWP rule arguably contravenes subsection 112(c)(2) and 112(d)(1)'s requirement that the EPA promulgate emission standards for all categories and subcategories of sources subject to MACT. Therefore, the EPA's authority to delist a subcategory or category from emission standards must come from subsection 112(c)(9)(B) and not from either subsection 112(c)(2) or 112(d)(1). For example, if the EPA appropriately delists a category of sources, then it would not need to apply otherwise applicable MACT standards to sources in the delisted category or subcategory.

3. Is the EPA's Low-Risk Subcategory the Equivalent of Exempting Individual Sources?

The PCWP Rule's methodology of allowing the Agency to place individual sources into a low-risk subcategory if the individual sources demonstrate that they are "low-risk" is questionable because Congress in 1990 specifically rejected the EPA's request that it have the authority to exempt individual sources from MACT standards. During the Senate debate on the 1990 Amendments, Senator Durenberger stated that the congressional Conference Committee in charge of reconciling the House and Senate bills, of which Senator Durenberger was a member, specifically rejected a

---

147 See id. at 36–37 (citing 42 U.S.C. §§ 7412(c)(2), (d)(1)).
148 42 U.S.C. § 7412(c)(2) (emphasis added); see PCWP Petition for Reconsideration, supra note 22, at 36 (quoting 42 U.S.C. § 7412(c)(2)).
149 42 U.S.C. § 7412(d)(1) (emphasis added); see PCWP Petition for Reconsideration, supra note 22, at 36–37 (quoting 42 U.S.C. § 7412(d)(1)).
150 See PCWP Petition for Reconsideration, supra note 22, at 36–37 (citing 42 U.S.C. §§ 7412(c)(2), (d)(1)).
151 See PCWP Petition for Reconsideration, supra note 22, at 36–57.
proposal in the House Bill to allow the EPA the authority to exempt individual sources.\textsuperscript{152} In the PCWP rule, the EPA acknowledged Congress's refusal to give it authority to grant source-specific exemptions. The Agency rejected industry's request that the Agency use its subsection 112(d)(4) authority to create alternative emission standards for threshold pollutants, stating "[T]he legislative history of the 1990 Amendments to the CAA indicates that Congress considered and rejected allowing us to grant such source-specific exemptions from the MACT floor."\textsuperscript{153} In light of Congress's rejection of giving the EPA source-specific exemptions, the best interpretation of the EPA's delisting authority under subsection 112(c)(9)(B) is that the EPA may delist only an entire pre-existing category or entire subcategory of sources provided that all sources in the relevant category or subcategory are low-risk. The Agency may not delist individual sources on a case-by-case basis. The EPA's approach in the PCWP Rule of exempting individual sources from a listed category based on their individual risk is inconsistent with Congress's intent that subsection 112(c)(9)(B) only allow the EPA to delist an entire pre-existing category or subcategory. The selection of individual sources based on risk is equivalent in all essential respects to delisting individual sources on a case-by-case basis.\textsuperscript{154}

The Petition quotes a March 4, 2002 draft memorandum from the EPA's Office of General Counsel that concluded that Congress did not intend the EPA to have the authority to exempt individual sources from MACT requirements.

The conclusion that Congress did not intend to exempt individual low-risk sources is further supported by Congress's rejection of a provision that would have allowed relaxed standards for such individual low-risk sources. The House Bill, H.R. 3030, would have allowed a source to comply with an alternative emission limitation (in lieu of the technology-based standards otherwise required), if the source could demonstrate that emissions meeting the alternative limita-

\textsuperscript{152} Senator Durenberger stated, "The fourth set of alternatives reviewed in the paper concern source-by-source exemptions from MACT based on risk assessments, a provision contained in the House bill. The authority for such exemptions was not present in the Senate bill, and the House receded to the Senate on this point. The provision was deleted in conference." See supra note 97, at S16,932 (remarks of Senator Durenberger); PCWP Petition for Reconsideration, supra note 22, at 37-38.

\textsuperscript{153} PCWP Rule, supra note 18, at 45,984; PCWP Petition for Reconsideration, supra note 22, at 38.

\textsuperscript{154} See PCWP Petition for Reconsideration, supra note 22, at 37 (discussing individual source exemption in PCWP Rule, supra note 18, at 46,012, 46,040).
tion would present a negligible risk to public health. Sena-
tor Durenberger explained that this source-specific risk-
based exemption was rejected by Congress. 155

The Draft OGC Memorandum did not become public until the
Los Angeles Times published it on May 21, 2004, more than two
months after the public comment period closed for the PCWP Rule
on March 10, 2004. 156 Responding to questions about the Mem-
orandum from Los Angeles Times reporters, Jeffrey R. Holmstead,
an Assistant Administrator of the EPA who was then the highest-
ranking Agency official in charge of air issues, acknowledged the
issue was debated by EPA lawyers, but stated, "[a]t the end of the
day, the agency determined it was something we did have the
authority to do." 157 The Memorandum was not adopted as an offi-
cial interpretation by the EPA, but it does raise troubling questions
about whether the PCWP Rule violates congressional intent to
deny the EPA the authority to exempt individual sources from
MACT.

The PCWP Rule tries to distinguish between Congress's denial
of authority for the EPA to impose weaker standards than MACT
for individual sources, at least under subsection 112(d)(4), 158 and
the EPA's new policy of using risk to exempt individual "low-risk"
sources as part of a "low-risk" subcategory" through the subsection
112(c)(9)(B) delisting process.

Our approach does not equate to one that Congress consid-
ered and rejected that would have allowed source-by-source
exemptions from MACT based on individualized demon-
strations that such sources are low risk. This is because, con-
trary to that approach, we rely upon the application of
specific eligibility criteria that are defined in advance of any
source's application to be included in the low-risk PCWP
subcategory, in much the same way as any other applicabil-
ity determination process works. Moreover, in response to
the assertion that our approach nevertheless conflicts with

155 PCWP Petition for Reconsideration, supra note 22, at 38 (quoting Draft Memorandum, EPA Office of General Counsel, 10–11 (Mar. 4, 2002)).
156 Alan C. Miller & Tom Hamburger, EPA Relied on Industry for Plywood Plant Pollut-
authority of the EPA to exempt individual sources from MACT requirements); PCWP
Petition for Reconsideration, supra note 22, at 39 n.85; PCWP Rule, supra note 18, at
45,946 (stating "[t]he public comment period lasted from January 9, 2003, to March 10,
2003.").
157 Miller & Hamburger, supra note 156, at A1.
158 PCWP Rule, supra note 18, at 45,984; PCWP Petition for Reconsideration, supra
note 22, at 38.
Authority to Delist “Low-Risk” Sources of Carcinogens

legislative history rejecting a similar (but not identical) approach Congress considered under CAA section 112, this legislative history is not substantive legislative history demonstrating that Congress voted against relief from MACT in this situation—there is no such history. The commenters point to a provision in the House bill that was not enacted but that would have provided in certain situations for case-by-case exemptions for low-risk sources. There is no evidence that this provision was ever debated, considered, or voted upon, so its not being enacted is not probative of congressional intent concerning our ability to identify and delist a group of low-risk PCWP affected sources. Instead, it is reasonable to assume that, had Congress been aware in 1990 of the possibility that an identifiable group of PCWP affected sources is low risk, while that group does not correspond to traditional criteria differentiating categories and subcategories, Congress would have expressly, rather than implicitly, authorized our action here.159

The Draft OGC Memorandum, however, specifically argues that Congress in 1990 would have rejected any source-by-source exemption based solely on risk and not on differences in technology, equipment, or types of emissions.

The statute and legislative history demonstrates that, for non-threshold pollutants, Congress did not intend to regulate only high-risk sources or to regulate sources only to the point where they meet the risk criteria of 112(c)(9) or 112(f) . . . . [S]ubcategorization based on risk would effectively allow source-specific delisting under 112(c)(9). Such an outcome is not contemplated by the language of section 112(c)(9) and was expressly rejected by Congress in drafting section 112.160

Despite the Agency’s assertions in the PCWP Rule that its delisting process is somehow different from the source-specific exemption proposal Congress rejected in 1990, the EPA’s delisting process is virtually the same type of source-by-source exemption.161 The PCWP Rule acknowledges that it uses a source-by-source exemption process to determine which sources fall into the low-risk

159 See PCWP Rule, supra note 18, at 45,990; PCWP Petition for Reconsideration, supra note 22, at 39.
160 PCWP Petition for Reconsideration, supra note 22, at 40 (quoting Draft Memorandum, EPA Office of General Counsel, 10–11 (Mar. 4, 2002)) (emphasis added).
161 See PCWP Petition for Reconsideration, supra note 22, at 40.
subcategory. Additionally, the Rule concedes that risk is the sole basis for determining which sources to delist, and, therefore exempt from MACT standards. Because the EPA's PCWP Rule exempts individual low-risk PCWP sources and then places them into a low-risk subcategory, the approach is tantamount to the power of individual exemption that Congress refused to grant to the Agency in the 1990 Amendments. The EPA itself conceded in the PCWP Rule that "the legislative history of the 1990 Amendments to the CAA indicates that Congress considered and rejected allowing us to grant such source-specific exemptions from the MACT floor." The Supreme Court has considered whether Congress specifically rejected a proposal in determining the proper interpretation of a statute. Accordingly, the EPA's assertion that Congress in 1990 would have accepted its delisting approach even though it had rejected a very similar proposal for source-by-source exemptions is not credible. Courts should reject the EPA's interpretation that it may evaluate individual sources and then place them into a low-risk category. Instead, the EPA should define categories or subcategories based on traditional technological, process, output, and product factors, and then delist a category only if all sources in the category are low-risk.

162 See PCWP Rule, supra note 18, at 45,990 ("[T]he approach we are taking for identifying additional low-risk PCWP affected sources is fully consistent with the approach we have long taken in identifying, on a case-by-case basis and subject to appropriate review, whether individual sources are members of a category or subcategory subject to standards adopted under CAA section 111 and 112."); PCWP Petition for Reconsideration, supra note 22, at 40 n.87.

163 See PCWP Rule, supra note 18, at 45,990 ("[T]he criteria for the low-risk subcategory we are delisting are based solely on risk and not on technological differences in equipment or emissions."); PCWP Petition for Reconsideration, supra note 22, at 40–41.

164 See PCWP Petition for Reconsideration, supra note 22, at 38–41.

165 See PCWP Rule, supra note 18, at 45,984; PCWP Petition for Reconsideration, supra note 22, at 41.

166 See, e.g., Immigration and Naturalization Serv. v. Cardoza-Fonseca, 480 U.S. 421, 441–443 (1987) (stating Court considered Congress's explicit rejection of provision in determining interpretation of statute); PCWP Petition for Reconsideration, supra note 22, at 41–42.

VI. IS SUBSECTION 112(c)(9)(B)(i)’s USE OF THE TERM “CATEGORY” BINDING OR A DRAFTING ERROR?

A. The EPA’s Drafting Error Argument

The plain language of subsection 112(c)(9)(B)(i) explicitly provides the EPA with authority to exempt only whole categories of sources emitting cancer-causing chemicals, if none of the sources in the category pose greater than a one-in-one-million risk of cancer to the most exposed individual. In its PCWP Rule, however, the EPA argues that the omission of the term “subcategory” in subsection 112(c)(9)(B)(i) was “nothing more than a drafting error.” The EPA in its PCWP Rule responded to a comment that it did not have authority under subsection 112(c)(9)(B) to delete a subcategory of low-risk sources of carcinogens:

Regarding the comment that Congress did not expressly provide relief for carcinogen-emitting low-risk groups of sources within the PCWP category other than as an entire category, we construe the provisions of CAA section 112(c)(9) to apply to listed subcategories as well as to categories. This construction is logical in the context of the general regulatory scheme established by the statute, and it is the most reasonable one because section 112(c)(9)(B)(ii) expressly refers to subcategories. Under a literal reading of section 112(c)(9)(B), no subcategory could ever be delisted, notwithstanding the explicit reference to subcategories, since the introductory language of section 112(c)(9)(B) provides explicit authority to only delist categories. Such a reading makes no sense, at the very least because Congress plainly assumed we might also delist another collection of sources besides either categories or subcategories, even in the case of sources of carcinogens. Both sections 112(c)(9)(B)(i) and (ii) refer additionally to groups of sources in the case of area sources as being eligible for delisting, even though only a category of sources is specifically identified as eligible for delisting in the introductory language of section 112(c)(9)(B). In light of the broader congressional purpose behind the delisting authority, we interpret the absence of explicit references to subcategories in this introductory language and in section 112(c)(9)(B)(i) as representing nothing more than a drafting error.

169 See PCWP Rule, supra note 18, at 45,990.
In other words, the EPA contends that the omission of the term “subcategory” is the result of an alleged scrivener's error.  

B. Courts Narrowly Apply the Scrivener's Error Doctrine

The federal courts have recognized an inherent judicial authority to correct obvious clerical mistakes in a statute, accepting the doctrine of scrivener's error. However, the federal courts have also adopted a narrow approach to that corrective power to avoid usurping legislative authority. Courts use the doctrine where “there is only the remotest possibility that any such clerical mistake reflected a deliberate legislative compromise.” The Supreme Court has stated that when courts interpret a statute they “must presume that a legislature says in a statute what it means and means in a statute what it says there.” That said, the Court has recognized an exception to the general rule, stating: “[t]he plain meaning of legislation should be conclusive, except in the rare cases [in which] the literal application of a statute will produce a result demonstrably at odds with the intentions of its drafters. In such cases, the intention of the drafters, rather than the strict language, controls.” The Supreme Court will employ the scrivener's error doctrine

---

170 There are various definitions of the term “scrivener’s error.” See, e.g., United States Nat'l Bank v. Indep. Ins. Agents of Am., Inc., 508 U.S. 439, 462 (1993) (defining “scrivener's error” as “a mistake made by someone unfamiliar with the law's object and design”); ANTONIN SCALIA, A MATTER OF INTERPRETATION: FEDERAL COURTS AND THE LAW 20 (1997) (defining “scrivener’s error” as a situation where “on the very face of the statute it is clear to the reader that a mistake of expression (rather than of legislative wisdom) has been made”); Michael S. Fried, A Theory of Scrivener’s Error, 52 RUTGERS L. REV. 589, 593–94 (2000) (stating “[s]crivener's error' refers to a typographical mistake or other error of a clerical nature in the drafting of a document,” but discussing other definitions of the term).

171 See, e.g., 2A NORMAN J. SINGER, STATUTES AND STATUTORY CONSTRUCTION § 47.36, at 277 (5th ed. 1992) (“A majority of cases permit the substitution of one word for another if necessary to carry out the legislative intent or express clearly manifested meaning.”); Fried, supra note 170, at 589, 594–99; John Copeland Nagle, Corrections Day, 43 UCLA L. REV. 1267, 1288 (1996) (“Almost all courts will correct a ‘scrivener’s error.’”).

172 John F. Manning, The Absurdity Doctrine, 116 HARV. L. REV. 2387, 2459 n.265 (2003) (explaining scrivener's error doctrine); accord Fried, supra note 170, at 603–04 (stating “courts generally will correct a scrivener's error only if the literal meaning of the statute would otherwise be so bizarre as to be unreasonable. Indeed, the doctrine must be so restricted, for in most cases the absurdity of the statute as written is the primary evidence that a drafting mistake has occurred”) (emphasis added). The varying approaches of state courts to the scrivener's error doctrine are beyond the scope of this article. See generally Fried, supra note 170, at 589–605 (discussing varying approaches of several different state supreme courts to the scrivener's error doctrine).


ener's error doctrine to correct otherwise plain statutory language only if there is "overwhelm[ing] evidence from the structure, language, and subject matter" of the statute demonstrating that Congress must have intended to use a different word than that in the statute.\footnote{See Nat'l Bank, 508 U.S. at 462. Even Justice Scalia who is a proponent of textualist statutory interpretation acknowledges the possibility of deviating from the text if there is strong evidence of a scrivener's error. See United States v. X-Citement Video, Inc., 513 U.S. 64, 82 (1994) (Scalia, J., dissenting) ("I have been willing, in the case of civil statutes, to acknowledge a doctrine of 'scrivener's error' that permits a court to give an unusual (though not unheard-of) meaning to a word which, if given its normal meaning, would produce an absurd and arguably unconstitutional result."); Green v. Bock Laundry Mach. Co., 490 U.S. 504, 527-30 (1989) (Scalia, J., concurring) (concluding term "defendant" in Federal Rule of Evidence 609(a)(1) refers only to criminal defendants and suggesting that drafters had inadvertently left out qualification "criminal" defendant); Scalia, supra note 170, at 20 (1997) (recognizing exception from textualism for "'scrivener's error'"); Bradford Mank, Legal Context: Reading Statutes in Light of Prevailing Legal Precedent, 34 Ariz. St. L.J. 815, 829 n.77 (2002) (discussing Justice Scalia's use of "'scrivener's error' doctrine); Manning, supra note 172, at 2459 n.265; John F. Manning, Textualism and the Equity of the Statute, 101 Colum. L. Rev. 1, 116-17 (2001).}

Following the Supreme Court's precedent, the D.C. Circuit has emphasized that the scrivener's error doctrine is a narrow tool to be used by courts only where there are very strong reasons to reinterpret a statute's normally controlling language to avoid an absurd result or a construction that is clearly contrary to the likely intent of Congress:

> Reading a statute contrary to its seemingly clear meaning is permissible "[i]f 'the literal application of a statute will produce a result demonstrably at odds with the intentions of its drafters.'" We will not, however, invoke this rule to ratify an interpretation that abrogates the enacted statutory text absent an extraordinarily convincing justification: "The court's role is not to 'correct' the text so that it better serves the statute's purposes, for it is the function of the political branches not only to define the goals but also to choose the means for reaching them . . . . Therefore, for the EPA to avoid a literal interpretation at Chevron step one, it must show either that, as a matter of historical fact, Congress did not mean what it appears to have said, or that, as a matter of logic and statutory structure, it almost surely could not have meant it."\footnote{Appalachian Power Co. v. EPA, 249 F.3d 1032, 1041 (D.C. Cir. 2001) (internal citations omitted).}

In 2003, the D.C. Circuit stated that it will not invoke the scrivener's error doctrine as long as there is a "plausible interpretation"
to the literal statutory language. In Appalachian Power Co. v. EPA, the D.C. Circuit found a scrivener's error where an internal cross-reference in the Act to § 110(a)(2)(D)(ii) only made sense if the reference was to § 110(a)(2)(D)(i). The Appalachian Power decision limited the doctrine to cases providing an "extraordinarily convincing justification."

C. Refuting the EPA's Drafting Error Argument

As will be demonstrated below, the EPA fails to meet its heavy burden of demonstrating that the omission of the term "subcategory" from subsection 112(c)(9)(B)(i) is a scrivener's error. That is because there are plausible reasons why Congress may have chosen to allow the EPA to delist subcategories of less harmful non-carcinogens, but not to delist subcategories of carcinogens.

1. Logic is Not Enough

The EPA's response consists of four somewhat overlapping arguments to support its drafting error conclusion. However, none of them are sufficient to overcome the strong presumption that courts should follow a statute's plain language. First, the EPA contends that "This construction is logical in the context of the general regulatory scheme established by the statute. . . ." It is not enough, however, that there is an alternative logical construction of a statute. A court may disregard the plain language of a statute only if there are strong reasons to do so, including instances where the plain language is clearly illogical or appears to contradict Congress's almost certain intent.

2. The Most Reasonable Construction Does Not Prove a Drafting Error

Second, the EPA contends that its interpretation that Congress inadvertently omitted the term "subcategories" in subsection 112(c)(9)(B)(i) "is the most reasonable [construction] because section 112(c)(9)(B)(ii) expressly refers to subcategories." Even if

---

177 Williams Cos. v. F.E.R.C., 345 F.3d 910, 912 (D.C. Cir. 2003).
178 Appalachian Power Co., 249 F.3d at 1032.
179 Id. at 1041.
180 Id.
181 PCWP Petition for Reconsideration, supra note 22, at 46-49.
182 See PCWP Rule, supra note 18, at 45,990.
183 See Nat'l Bank of Or., 508 U.S. at 462; Williams Cos., 345 F.3d at 912; Appalachian Power Co., 249 F.3d at 1041; PCWP Petition for Reconsideration, supra note 22, at 45-46.
184 See PCWP Rule, supra note 18, at 45,990.
the EPA is correct that its interpretation is the most reasonable construction, the Agency's drafting error argument still fails if there are other plausible interpretations that would explain Congress's omission of the term "subcategory" in 112(c)(9)(B)(i). In light of Congress's often different treatment of carcinogens and non-carcinogens in subsection 112, including Congress's decision to use the ample margin of safety standard for non-carcinogens in subsection 112(c)(9)(B)(ii) and the one-in-one-million standard for carcinogens in subsection 112(c)(9)(B)(i), there is a plausible argument that Congress understood the distinction between categories and subcategories and consciously omitted the term subcategories in the latter subsection because carcinogens are more dangerous. Similarly, subsection 112(c)(9)(A) permits delisting only for a "source category." Additionally, the EPA's second argument does not address the possibility that Congress committed a drafting error by including the term "subcategory" in subsection 112(c)(9)(B)(ii).

3. A Literal Reading of Subsection 112(c)(9)(B)(i) is Reasonable and Does Not Contradict Subsection 112(c)(9)(B)(ii)

Third, the EPA argues that "under a literal reading of section 112(c)(9)(B), no subcategory could ever be delisted, notwithstanding the explicit reference to subcategories, since the introductory language of section 112(c)(9)(B) provides explicit authority to only delist categories." The EPA does not explain why such an interpretation is absurd or implausible which is the standard used by federal courts in deciding whether the scrivener's error doctrine applies. It is possible that Congress did not wish the EPA to have the discretion to exempt some subcategories of carcinogenic sources through a delisting process while subjecting other carcinogenic sources in the source category to MACT rules. It is at least plausible that Congress intended to authorize the EPA to delist

---

185 Williams Cos., 345 F.3d at 912 (stating that court would not find scrivener's error if there is a plausible interpretation of the statute's plain language); PCWP Petition for Reconsideration, supra note 22, at 44–51 (arguing the EPA's claim that absence of the term "subcategory" in 42 U.S.C. § 112(c)(9)(B)(i) is a drafting error is wrong because there are plausible reasons why Congress chose to omit that term).

186 PCWP Petition for Reconsideration, supra note 22, at 47.


188 See PCWP Petition for Reconsideration, supra note 22, at 47.

189 See PCWP Rule, supra note 18, at 45,990.

190 Appalachian Power Co., 249 F.3d at 1041.

191 See PCWP Petition for Reconsideration, supra note 22, at 47.
carcinogenic sources only if every carcinogenic source in an entire category posed low-risk; an all-or-nothing approach.\textsuperscript{192}

The EPA's claim that there is an internal contradiction between subsection 112(c)(9)(B)(ii)'s reference to both "categories" and "subcategories" and subsection 112(c)(9)(B)'s reference to only "categories" does not demonstrate a similar contradiction between subsections 112(c)(9)(B)(ii) and 112(c)(9)(B)(i)'s different treatment of carcinogens and non-carcinogens.\textsuperscript{193} One commenter argued that "the absence of the term 'subcategories' in section 112(c)(9)(B)(i) indicates a Congressional choice not to permit the Administrator to delist subcategories of sources under subsection 112(c)(9)(B)."\textsuperscript{194} That commenter also stated that the omission of the term "subcategory" in 112(c)(9)(B)(i) "is consistent with Congress'[s] decision to require a higher standard to delist categories that emit carcinogens."\textsuperscript{195} According to that commenter, the subsection 112(c)(9)(B)(ii) requirement of less than one-in-one-million lifetime cancer risk for the most exposed individual "is a higher and more specific standard than the standard for other HAPs."\textsuperscript{196} Similarly, subsection 112(d)(4) provides the EPA with the authority to promulgate alternative emission standards for threshold pollutants, usually understood as only non-carcinogens in 1990, as long as the alternative standard provides an ample margin of safety.\textsuperscript{197} However, subsection 112(d)(4) does not allow alternatives for non-threshold carcinogens, which in 1990 most scientists believed included all carcinogens.\textsuperscript{198} Accordingly, because Congress in several portions of section 112 treated carcinogens and non-carcinogens differently, it is plausible that Congress intended subsection 112(c)(9)(B)(i), unlike subsection 112(c)(9)(B)(ii), to prohibit the Agency from delisting subcategories of carcinogens even if the Agency may delist subcategories of non-carcinogens.

\textsuperscript{192} See id.
\textsuperscript{193} See id.
\textsuperscript{194} PCWP Rule, supra note 18, at 45,987.
\textsuperscript{195} Id.
\textsuperscript{196} Id.
\textsuperscript{197} See 42 U.S.C. § 7412(d)(4).
\textsuperscript{198} Id.
4. **Subsection 112(c)(9)(B)’s Approach for Delisting “Area Sources” Does Not Prove that the Omission of the Term “Subcategory” in Subsection 112(c)(9)(B)(i) is Absurd**

Fourth and finally, the EPA argues that a “literal” reading of subsection 112(c)(9)(B) is absurd because Congress allowed the Agency to delist either categories or subcategories of area sources, even in the case of carcinogens, but did not do so under subsection 112(c)(9)(B)(i) for major sources of carcinogens.\(^{199}\) Both subsections 112(c)(9)(B)(i) and (ii) refer to the Agency’s authority to delist “groups of sources in the case of area sources,” even though only a category of sources is specifically identified as eligible for delisting in the introductory language of section 112(c)(9)(B).\(^{200}\) Although Congress could have done a better job in drafting the introductory language of subsection 112(c)(9)(B) by including a reference to area sources, the clear statutory language in subsections 112(c)(9)(B)(i) and 112(c)(9)(B)(ii) that provides the EPA with the authority to delist a “group of sources in the case of area sources” is not absurd, but simply treats area sources differently from major sources.\(^{201}\) There are plausible reasons why Congress might provide the Agency with more discretion to delist small area sources that are generally less dangerous than “major” sources of air toxics. Congress exempted area sources from residual risk requirements\(^{202}\) and also allowed the EPA to apply less stringent, alternative GACT technology-based requirements or management practices for area sources.\(^{203}\) The statute’s distinction between area and major sources is plausible and does not prove that Congress made a drafting error in subsection 112(c)(9)(B)(i) by omitting the term “subcategory.”\(^{204}\)

5. **The EPA’s Drafting Error Argument Fails**

The EPA’s four interrelated arguments do not meet its burden of demonstrating “overwhelming evidence from the structure, language, and subject matter of” section 112 necessary to prove that Congress made a scrivener’s error not just once, but twice, in sub-

---

\(^{199}\) See PCWP Rule, *supra* note 18, at 45,990.

\(^{200}\) See id.

\(^{201}\) See PCWP Petition for Reconsideration, *supra* note 22, at 48.


\(^{203}\) See 42 U.S.C. § 7412(d)(5) (providing EPA Administrator with discretion to use alternative GACT or management practices for area sources).

\(^{204}\) See PCWP Petition for Reconsideration, *supra* note 22, at 48.
sections 112(c)(9)(B) and 112(c)(9)(B)(i). Congress used only the term "category" in both subsections. It is unlikely that Congress made the same mistake twice. The EPA presents no evidence from the Act's legislative history to demonstrate a drafting error in subsection 112(c)(9)(B)(i). On the contrary, the limited legislative history addressing subsection 112(c)(9)(B)(i) refers only to categories and not to subcategories.

There are plausible reasons why Congress may have intentionally omitted the term "subcategory" in subsection 112(c)(9)(B)(i) even though the same term is included in subsection 112(c)(9)(B)(ii) for non-carcinogens. Subsection 112(c)(9)(B)(i) requires "a higher and more specific standard" of proof to delist categories that emit carcinogens (a one-in-one-million lifetime cancer risk for the most exposed individual) than subsection 112(c)(9)(B)(ii) requires for deleting categories or subcategories of threshold air toxics (an "ample margin of safety standard"). Congress may have been concerned about the difficult judgment calls the EPA would have to make in delisting some subcategories of carcinogenic sources, but not others. If every source in a category emitting carcinogens has a risk less than one-in-one-million to the most exposed individual, then the source category as a whole is low-risk and delisting is appropriate. Accordingly, Congress may have deliberately excluded subcategories of sources emitting carcinogens under subsection 112(c)(9)(B)(i).

In light of section 112's frequent distinction between carcinogens and non-carcinogens, the EPA fails to prove that "the literal appli-
cation of [the Act] will produce a result demonstrably at odds with the intentions of its drafters." Additionally, Congress's use of the term "subcategory" in subsection 112(c)(9)(B)(ii) demonstrates that Congress knew how to explicitly employ that term if it wanted it to be included. Accordingly, a judge would likely conclude that subsection 112(c)(9)(B)(i) does not authorize the EPA to delist a subcategory of carcinogenic sources, but only an entire category and only if every source in that larger source category poses a lifetime risk of cancer to the most exposed individual of less than one-in-one-million. 

D. Does the EPA's Interpretation of Subsection 112(c)(9)(B)(i) Deserve Deference under Chevron?

In *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, the Supreme Court held that, if a statute is silent or ambiguous about the particular issue in question, courts should defer to an agency's reasonable interpretation of that statute if it is issued as part of a valid rule, because it is presumed that Congress delegated interpretive power to an agency with the authority to issue rules having the "force of law." If the language of a statute is clear, however, a court will not defer to the agency's interpretation of a statute, but will instead interpret and follow the plain language of the statute. If a statute's language is clear, a court will ignore the statute's plain language and instead follow an agency's contrary interpretation only if the agency can "show either that, as a matter

---

216 *Id.* at 47–50.
217 *Id.* at 49–50.
218 467 U.S. 837, 842–43, 865–66 (1984) (stating courts should defer to Agency's interpretation of ambiguous statutory language if interpretation is reasonable and stressing that executive agencies have more appropriate role in defining ambiguous statutory language because they possess greater substantive expertise than courts, and agencies are politically accountable through elections, unlike courts); *see also* United States v. Mead Corp., 533 U.S. 215, 226–31 (2001) (explaining that *Chevron* doctrine requires courts to defer to Agency's reasonable interpretation of ambiguous statute or fill "gap" in a silent statute where Congress has delegated to Agency authority to issue regulations carrying "force of law"); John F. Manning, *Constitutional Structure and Judicial Deference to Agency Interpretations of Agency Rules*, 96 COLUM. L. REV. 612, 625–26 (1996) (describing presumption established in *Chevron* that silence in statute shows intent of Congress to leave act of interpretation in hands of Agency in charge of administering act); Thomas W. Merrill & Kristin E. Hickman, *Chevron's Domain*, 89 GEO. L.J. 833 passim (2001) (explaining that *Chevron* fundamentally expanded deference of courts to Agency interpretations of statutes by presuming gaps or ambiguities in statute as reflecting implicit congressional intent to delegate interpretive authority to Agency).
219 *Chevron*, 467 U.S. at 842–43 ("If a statute's language is clear and specific, a court must reject an agency interpretation that is contrary to that language.")
of historical fact, Congress did not mean what it appears to have said, or that, as a matter of logic and statutory structure, it almost surely could not have meant it."\footnote{Appalachian Power Co, 249 F.3d at 1041; see PCWP Petition for Reconsideration, \textit{supra} note 22, at 44–46, 49–50.}

Even if a court finds that a statute contains a scrivener’s error, the court does not defer to the agency’s interpretation of the statute, but instead allows the agency to “‘deviate no further from the statute than is needed to protect congressional intent.’”\footnote{See Appalachian Power Co., 249 F.3d at 1043–44 (“We do not give an agency alleging a scrivener’s error the benefit of \textit{Chevron} step two deference, by which the court credits any reasonable construction of an ambiguous statute. Rather, the agency may deviate no further from the statute than is needed to protect congressional intent.” (citing Mova Pharm. Corp. v. Shalala, 140 F.3d 1060, 1068 (D.C. Cir. 1998))); PCWP Petition for Reconsideration, \textit{supra} note 22, at 44–45; see also United States v. X-Citement Video, Inc., 513 U.S. 64, 82 (1994) (Scalia, J., dissenting) (stating courts should not “stretch” the doctrine of scrivener’s error “so as to give [a] problematic text a meaning it cannot possibly bear”).}

A court must follow a statute’s plain language and not defer to an agency’s contrary interpretation unless an agency can present strong evidence that the plain language is likely a drafting error. The EPA in the PCWP Rule fails to present any convincing evidence or “historical fact[s]” demonstrating that Congress made a drafting error in subsection 112(c)(9)(B)(i) when it included only the term “category,” but not the term “subcategory.” Because there are plausible reasons why Congress might have treated delisting differently for carcinogens and non-carcinogens, a court should not find that Congress made a scrivener’s error. In the absence of convincing evidence that Congress made a scrivener’s error, a court must follow the plain language of subsection 112(c)(9)(B)(i) and limit the Agency’s delisting authority to entire categories of carcinogenic sources.\footnote{\textit{Chevron}, 467 U.S. at 842–43 (“If a statute’s language is clear and specific, a court must reject an agency interpretation that is contrary to that language.”).} Because the statute is clear and there is no clear evidence of a drafting error, a court should not give \textit{Chevron} deference to the EPA’s flawed interpretation in the PCWP Rule that subsection 112(c)(9)(B)(i) contains a drafting error and should include the term “subcategory.”\footnote{See PCWP Petition for Reconsideration, \textit{supra} note 22, at 45–46, 49–50.}

\section*{VII. Conclusion}

The EPA’s claim that it has the authority to exempt subcategories of so-called “low-risk” carcinogenic sources is significant because it could expand the PCWP MACT rule to many other industrial MACT categories or subcategories and exempt poten-
tially thousands of sources governed by MACT standards in dozens of industries. In the PCWP Rule alone, the EPA is seeking to exempt over one-half of the sources in the PCWP industry—147 sources.\(^\text{224}\) If courts accept the EPA's scrivener's error argument that Congress inadvertently omitted the term "subcategory" from subsection 112(c)(9)(B)(i) then the EPA will have the effective power to exempt individual sources from MACT on a case-by-case basis. This is a power which Congress explicitly refused to give to the EPA in the 1990 Amendments.\(^\text{225}\)

In January 2005, Republican Senators James Inhofe (OK) and George Voinovich (OH) inserted language in their proposed "Clear Skies" legislation, Senate Bill 131, which primarily seeks to approve President Bush's controversial three-pollutant plan for the trading of sulfur dioxide, nitrogen dioxides, and mercury, to explicitly approve the PCWP rule as well as three other low-risk exemptions from MACT.\(^\text{226}\) At the Senate Environment Committee hearing on the bill, Senator Hillary Rodham Clinton (D-NY) criticized the MACT exemption provision for potentially allowing sources to release thousands of tons of carcinogens into the air.\(^\text{227}\) To increase the bill's chances of passage, in February 2005, Senators Inhofe, Voinovich, and Christopher Bond (R-MO) amended the bill to eliminate the PCWP exemption provision before the

\(^{224}\) See supra note 19 and accompanying text.

\(^{225}\) See PCWP Petition for Reconsideration, supra note 22, at 38–56 (arguing that Congress in 1990 explicitly refused to grant to the EPA the authority to exempt individual sources from MACT standards, but that the EPA's low-risk exemption program in PCWP Rule effectively gave the Agency an equivalent power).

\(^{226}\) S. 131, 109th Cong. § 407(j)(1)(A)(ii) (Jan. 24, 2005) (creating exemption from MACT for sources covered by plywood rule, 69 Fed. Reg. 45,943); Darren Samuelsohn, Air Pollution; Voinovich sets deadline for dropping Clear Skies debate, Env't & Energy Daily, Jan. 27, 2005, available at 2005 WL 62125687 ("John Walke, a senior attorney at the Natural Resources Defense Council, said the 'opt-in' language added by Inhofe and Voinovich would allow four major industries to be exempt from existing U.S. EPA toxic air pollution control technology requirements, some of which are currently being litigated by environmental groups who claim the agency rules are not stringent enough. Industrial, commercial and institutional boilers and process heaters, plywood and composite wood panel manufacturers, reciprocating internal combustion engines and stationary combustion turbines are all given specific regulatory relief in the GOP's new version of Clear Skies.").

\(^{227}\) Clear Skies Act of 2005: Hearings on S. 131 Before the U.S. Senate Committee on Environment and Public Works, 109th Cong. (Feb. 2, 2005) [hereinafter Hearings on S. 131] (quoting remarks of Senator Hillary Rodham Clinton: "Section 407(j) of S. 131 includes a provision that carves out exemptions from current Clean Air Act requirements for four entire source categories, more than 70,000 units. This removes these units from Clean Air Act regulations for hazardous air pollutants, including carcinogens like benzene, probable carcinogens like formaldehyde . . . ."); Senate Republicans Drop Air Toxics Waiver in Clear Skies Bill, INSIDE EPA, Feb. 15, 2005.
Committee's February 16, 2005 markup of the bill.\(^\text{228}\) Accordingly, the D.C. Circuit will hear the case challenging the PCWP rule unless the EPA grants the petition for reconsideration. On July 29, 2005, in response to the petition, the EPA published a Notice of Reconsideration with a forty-five day public comment period, ending September 12, 2005.\(^\text{229}\) As this article went to publication, the EPA had not yet published its final rule and notice of final action regarding the Notice of Reconsideration, and the D.C. Circuit had not yet decided the case.

Courts should reject the EPA's scrivener's error argument that Congress inadvertently omitted the term "subcategory" from subsection 112(c)(9)(B)(i). The EPA has failed to meet its heavy burden of proving that Congress must have made a scrivener's error in omitting the term "subcategory" from subsection 112(c)(9)(B)(i). Based on Section 112's history, language and structure, there are plausible reasons why Congress may have allowed the deletion of subcategories of non-carcinogens, but refused to do the same for carcinogens, which Congress in the 1990 Amendments assumed had no threshold. The plain language of subsection 112(c)(9)(B)(i), which allows the EPA to delist an entire "category" of sources emitting carcinogens only if every source in that category poses a lifetime risk of cancer of less than one-in-one-million, is reasonable.\(^\text{230}\) Accordingly, the EPA may not exempt subcategories of sources releasing carcinogens under 112(c)(9)(B)(i). The PCWP Rule is invalid to the extent that the Agency authorized the delisting of a subcategory of low-risk carcinogenic sources.

\(^{228}\) The amendment also eliminated MACT exemptions for two other industrial categories: (1) reciprocating internal combustion engines; and (2) stationary combustion turbines. See Hearings on S. 131, supra note 227.

\(^{229}\) The Notice of Reconsideration summarized the eight arguments that the Petition had made challenging the risk-based portion of the final rule, including the following: (1) Risk assessment methodology; (2) background pollution and co-located emission sources; (3) the dose-response value used for formaldehyde; (4) costs and benefits of establishing a low-risk subcategory; (5) ecological risk; (6) legal basis for the risk-based approach; (7) MACT compliance date for affected sources previously qualifying for the low-risk subcategory; and (8) title V implementation mechanism for the risk-based approach. EPA, National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products; List of Hazardous Air Pollutants, Lesser Quantity Designations, Source Category List; Reconsideration, 70 Fed. Reg. 43,826, 43,826–29 (July 29, 2005). The petition also raised concerns regarding the final rule's start-up, shutdown, and malfunction (SSM) provisions that are beyond the scope of this Article. Id. at 43828–30.

\(^{230}\) See PCWP Petition for Reconsideration, supra note 22, at 49–51.