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MERCURIAL BUT NOT SWIFT—U.S. EPA'S INITIATIVE
TO REGULATE COAL PLANT MERCURY EMISSIONS
CHANGES COURSE AGAIN AS IT ENTERS A THIRD DECADE

KEITH HARLEY*

INTRODUCTION

The effort to establish national standards to control mercury air pollution from coal-fired power plants now spans twenty years, four presidential administrations, and remains undone. This note will briefly describe the failed twenty-year effort to regulate mercury emissions from coal-fired power plants. It will show how United States Environmental Protection Agency (U.S. EPA) efforts during the (first) Bush and Clinton Administrations to construct mercury regulations were dismantled during the Administration of George W. Bush.¹ During the second Bush Administration, U.S. EPA substituted a new regulatory approach that was ultimately repudiated by the federal judiciary as plainly inconsistent with the Clean Air Act.² The Obama Administration now proposes to initiate yet another rulemaking process, but acknowledges final regulations will not be issued until the end of 2011 at the earliest.³ In the absence of federal standards, some states attempted state-specific requirements to control mercury from coal-fired

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1. Standards of Performance for New and Existing Stationary Sources: Electric Utility Steam Generating Units; Final Rule. 70 Fed. Reg. 95, 28,605 (May 18, 2005) (to be codified at 40 C.F.R. Pts 60,72, and 75)[hereinafter Bush Standards].

2. Revision of December 2000 Regulatory Finding on the Emissions of Hazardous Air Pollutants From Electric Utility Steam Generating Units and the Removal of Coal- and Oil-Fired Electric Utility Steam Generating Units From the Section 112(c) List. 70 Fed. Reg. 59, 15,993 (Mar. 29, 2005)(to be codified at 40 C.F.R. pt. 63)[hereinafter Bush Revisions].

3. *Technology Transfer Network Air Toxics Web Site*, ENVTL. PROT. AGENCY, available at <http://www.epa.gov/ttn/atw/utility/utilitypg.html> (last updated July 6, 2010).

power plants, but with limited success.⁴ Consequently, after twenty years of regulatory attention, most coal-fired power plants continue to emit mercury without legal restriction.⁵

I. MERCURY

Mercury is a naturally occurring constituent of coal.⁶ Coal combustion is the primary way electricity is generated in the United States.⁷ In turn, coal-fired power plants are the largest industrial source of mercury emissions into the air.⁸

Once emitted, mercury falls to the ground.⁹ This can occur in precipitation or through dry deposition.¹⁰ Mercury can be washed into water ways, where it becomes sequestered in sediments.¹¹ There, inorganic mercury is converted to methyl mercury by bacteria.¹² Methyl mercury can be taken into the root systems of aquatic plants that are eaten by smaller fish, which then carry a small measure of mercury in their tissues.¹³ When predator fish eat several small fish, the predators receive many mercury doses that accumulate in their tissues.¹⁴ The accumulating levels of mercury in predator fish can be so high that health advisories are common to warn anglers and consumers that the predator fish are toxic to eat.¹⁵ Similar warnings have been issued in some states for shellfish.¹⁶

The risks posed by mercury in fish and shellfish are not the same for every consumer.¹⁷ Mercury is a developmental neurotoxin that is most

4. See NAT'L ASS'N OF CLEAN AIR AGENCIES, STATE MERCURY PROGRAMS FOR UTILITIES (2007), tbl. <http://www.4cleanair.org/Documents/StateTable.pdf>.

5. See *id.* (listing fourteen states that regulate Mercury emissions from listed facilities).

6. RAVI STRIVASTAVA, ENVTL. PROT. AGENCY: AIR POLLUTION PREVENTION AND CONTROL DIVISION, EPA/600/R-10/006, CONTROL OF MERCURY EMISSIONS FROM COAL FIRED ELECTRIC UTILITY BOILERS: AN UPDATE, 1, 4 (2010).

7. U.S. DEP'T ENERGY, ENERGY INFO. ADMIN., DOE/EIA-0383, ANN. ENERGY OUTLOOK 2010, at 66 (2010), available at <http://www.eia.doe.gov/oiaf/aeo/index.html>.

8. ENVTL. PROT. AGENCY: OFFICE OF AIR QUALITY PLANNING AND STANDARDS, EPA-453R-8004a, STUDY OF HAZARDOUS AIR POLLUTANT EMISSIONS FROM ELECTRIC UTILITY STEAM GENERATING UNITS – FINAL REPORT TO CONGRESS, VOL. 1, §7.1.1 (1998), available at <http://www.epa.gov/ttn/caaa/t3/reports/eurtc1.pdf>.

9. DEP'T OF HEALTH & HUMAN SERVICES, TOXICOLOGICAL PROFILE FOR MERCURY 5 (1999), available at <http://www.atsdr.cdc.gov/toxprofiles/tp46.pdf> [hereinafter TOX. PROFILE].

10. *Id.*

11. *Id.*

12. *Id.*

13. *Id.* at 5,401–4.

14. *Id.* at 5–6.

15. *Fish Advisories*, ENVTL. PROT. AGENCY, <http://www.epa.gov/waterscience/fish/> (last updated May 21, 2010).

16. *Id.*

17. TOX. PROFILE, *supra* note 9, at 17.

dangerous to young children and to fetuses.¹⁸ The risks are especially high for this susceptible sub-population if they depend on affected fish and shellfish as a significant source of their nourishment.¹⁹ Moreover, because mercury is a persistent, bioaccumulative and toxic pollutant, the effects of uncontrolled emissions of this pollutant will be experienced for the indefinite future.²⁰ These legacy effects cannot be undone even if new controls are now mandated and successfully implemented by the Obama Administration.²¹

II. THE ADMINISTRATION OF GEORGE H.W. BUSH—MERCURY IS A HAZARDOUS AIR POLLUTANT. SIGNIFICANT SOURCES OF MERCURY EMISSIONS MUST BE REGULATED. THESE SOURCES ARE REQUIRED TO IMPLEMENT MAXIMUM ACHIEVABLE CONTROL TECHNOLOGIES TO REDUCE MERCURY EMISSIONS.

On November 15, 1990, President George H.W. Bush signed major amendments to the Clean Air Act into law.²² These amendments mandated ambitious new programs to address ozone layer depletion (by phasing out whole classes of chemicals in a manner consistent with an international protocol),²³ acid rain (by creating a cap-and-trade system for large contributing sources of sulfur dioxide),²⁴ and chronically unhealthy air quality in many areas (by prescribing more stringent requirements for many industrial, commercial, and mobile sources in these regions).²⁵ The Senate version of the Amendments passed 89-11; the House version passed 401-21.²⁶

The 1990 Amendments also mandated an entirely new approach to control hazardous air pollutants, including mercury.²⁷ Since the Clean Air Act was enacted in 1970, the U.S. EPA Administrator possessed the authority and responsibility to identify and regulate hazardous air pollutants.²⁸ This mandate directed U.S. EPA to implement NESHAPs, the

18. *Id.*

19. *Id.* at 471-2.

20. *Id.* at 221.

21. *See generally id.*

22. Clean Air Act Amendments of 1990, Pub.L.101-549, 104 Stat. 2399 (codified as amended at 42 U.S.C. §§ 7401-7671 (1990)).

23. Clean Air Act § 601, 42 U.S.C. § 7671 (2010).

24. Clean Air Act § 401, 42 U.S.C. § 7651 (2010).

25. Clean Air Act § 181, 42 U.S.C. § 7511 (2010).

26. OVERVIEW—THE CLEAN AIR ACT AMENDMENTS OF 1990, ENVTL. PROT. AGENCY, http://www.epa.gov/air/caa/caaa_overview.html (last updated September 6, 2010).

27. Clean Air Act § 112, 42 U.S.C. § 7412 (2010).

28. Clean Air Act § 112, 42 U.S.C. § 7412 (2010).

National Elimination System for Hazardous Air Pollutants.²⁹ The original purpose of this program was clear and urgent; hazardous air pollutants like mercury that are toxic to humans and poisonous to the environment were emitted into the air without legal restriction by industrial and commercial sources.³⁰

By 1990, NESHAPs was widely regarded as a failure.³¹ Over twenty years, the U.S. EPA identified only eight hazardous air pollutants as justifying regulatory attention, and its regulatory initiatives to control the sources of these HAPs were piecemeal.³² In response, the 1990 Amendments created a series of highly prescriptive legislative requirements for the U.S. EPA Administrator to establish hazardous air pollutant controls, backstopped by deadlines for action that are enforceable by the Clean Air Act's citizen suit provision.³³

The 1990 Amendments require the U.S. EPA Administrator to develop regulatory standards to control 188 hazardous air pollutants that, in the judgment of Congress, pose a threat of adverse effects on human health or the environment.³⁴ In order to leave nothing to chance, these HAPs, including mercury, are specifically listed in the Amendments to Section 112.³⁵ For listed hazardous air pollutants like mercury, the EPA Administrator was required to identify the major industrial and commercial emitters of these pollutants by November 15, 1991.³⁶ Further, the EPA Administrator was required to establish regulatory standards to control HAP emissions from these industrial and commercial categories.³⁷ Once established, these emission standards would be imposed on existing and new HAP sources through facility-specific permits.³⁸ The permits also mandate protocols for regulated entities to monitor and report on their compliance with control

29. See generally Clean Air Act § 112, 42 U.S.C. § 7412 (2010); see also ENVTL. PROT. AGENCY, TECHNOLOGY TRANSFER NETWORK, AIR TOXICS WEBSITE (2010), <http://www.epa.gov/ttn/atw/eparules.html>.

30. See generally Clean Air Act § 112, 42 U.S.C. § 7412 (2010). (enabling the EPA to restrict hazardous air pollutants).

31. See Clean Air Act Amendments of 1990, Pub.L. 101-549, 104 Stat. 2399 (codified as amended at 42 U.S.C. § 7401-7671 (1990) (Due, in no small part to the failure of NESHAPs, Congress passed the 1990 Clean Air Act Amendments which gave the Environmental Protection Agency tools to regulate Hazardous Air Pollutants listed in 40 C.F.R. pt. 61-63).

32. *New Jersey v. EPA*, 517 F.3d 574 (D.C. Cir. 2008).

33. See Clean Air Act § 112(d)-(e), 42 U.S.C. § 7412(d)-(e) (2010), Clean Air Act § 304, 42 U.S.C. § 7604(d) (2010).

34. Clean Air Act § 112(b)(1), 42 U.S.C. § 7412(b)(1) (2010).

35. *Id.*

36. Clean Air Act § 112(c)(1), 42 U.S.C. § 7412(c)(1) (2010).

37. Clean Air Act § 112(c)(2), 42 U.S.C. § 7412(c)(2) (2010).

38. Clean Air Act § 112(j), 42 U.S.C. § 7412(j) (2010), Clean Air Act § 501, 42 U.S.C. § 7661 (2010).

requirements.³⁹ A facility operator that fails to comply with permit requirements is subject to administrative, civil and/or criminal penalties.⁴⁰

Congress also specifically addressed the level of control it expected larger industrial and commercial sources to achieve for HAPs like mercury, mandating a Maximum Achievable Control Technology (MACT) standard.⁴¹ For existing sources, U.S. EPA developed MACT by identifying how similar facilities already controlled their emissions of listed hazardous air pollutants.⁴² In developing regulations, U.S. EPA identified the best controlled twelve percent among these similar facilities.⁴³ After adjusting for factors like cost, non-air impacts, and energy requirements, U.S. EPA promulgated this as the MACT standard for all facilities in the same category.⁴⁴ In turn, existing facilities were required to meet this standard within three years after the final agency regulatory action.⁴⁵ The MACT standard for new sources is even more stringent.⁴⁶ As a condition of receiving construction approval, a new facility must demonstrate it will control its HAPs to the same standard achieved by the single best controlled similar facility anywhere in the country.⁴⁷

In almost perfectly bipartisan fashion, the first Bush Administration achieved major amendments to the Clean Air Act.⁴⁸ These Amendments were designed to meet the challenges of the time, including creating the legislative framework for controlling hazardous air pollutants like mercury.⁴⁹ As we now know, the hard work of implementing this blueprint was left to a new generation of national leaders. Yet, as to mercury, who would faithfully follow in George H.W. Bush's footsteps and act according to this carefully drawn blueprint—the political foe or the loyal son?

39. Clean Air Act § 501(c)(b), 42 U.S.C. § 7661(c)(b) (2010); Clean Air Act § 501(c)(c), 42 U.S.C. § 7661(c)(c) (2010).

40. Clean Air Act § 501(a)(a), 42 U.S.C. § 7661(a)(a) (2010).

41. Clean Air Act § 112(d)(3), 42 U.S.C. § 7412(d)(3) (2010).

42. Clean Air Act § 112(d)(3)(A), 42 U.S.C. § 7412(d)(3)(A) (2010).

43. *Id.*

44. Clean Air Act § 112(d)(1), 42 U.S.C. § 7412(d)(1) (2010, Clean Air Act § 112(d)(2), 42 U.S.C. § 7412(d)(2) (2010).

45. Clean Air Act § 112(d)(3), 42 U.S.C. § 7412(d)(3) (2010).

46. Clean Air Act § 112(i)(2), 42 U.S.C. § 7412(i)(2) (2010).

47. *Id.*

48. *Overview—The Clean Air Act Amendments of 1990, supra* note 26.

49. *See id.*

III. THE ADMINISTRATION OF BILL CLINTON—COAL-FIRED POWER PLANTS ARE THE MOST SIGNIFICANT SOURCE OF MERCURY AIR POLLUTION. PURSUANT TO SECTION 112, U.S. EPA MUST DEVELOP MACT STANDARDS TO CONTROL MERCURY EMISSIONS FROM COAL-FIRED POWER PLANTS.

The Clinton Administration inherited the task to develop MACT standards.⁵⁰ The results of U.S. EPA's efforts during this period are found in the three thick volumes of the 2001 version of the Code of Federal Regulations, consisting of 40 CFR 63.1 through 40 CFR 63.2872.⁵¹ From 1994 to early 2001, more than sixty industrial categories, cumulatively consisting of thousands of individual facilities, became subject to MACT requirements to control their emissions of hazardous air pollutants.⁵² Simply, this is one of the most significant regulatory initiatives ever undertaken by a federal agency. Yet, by the end of the Clinton Administration—ten years after the Clean Air Act Amendments—there were not MACT standards for mercury emissions from coal-fired power plants.⁵³ Why not?

In fairness, as reflected in Section 112(n), Congress anticipated more time and effort would be required to develop regulations for coal plants and some other complex HAP sources.⁵⁴ In keeping with Section 112(n)(1)(A)–(C), Congress mandated U.S. EPA and other federal agencies to complete a series of prelude studies and reports before concluding whether or not it is “appropriate and necessary” to regulate the HAP emissions from coal-fired power plants and similar sources.⁵⁵ By the conclusion of the Clinton Administration, U.S. EPA completed the required studies and reports and was prepared to answer a threshold question: “Is it appropriate and necessary to regulate coal-fired power plants as significant sources of mercury emissions?”⁵⁶

In 2000, U.S. EPA answered this question with an unconditional “Yes.”⁵⁷ Based in large part on information documented in a multi-volume 1998 Report to Congress, U.S. EPA concluded that coal-fired power plants

50. The EPA was unable to complete any rule-making prior to the expiration of President George H.W. Bush's term as the Clean Air Act Amendments of 1990 were enacted in November of 1990. See generally Clean Air Act Amendments of 1990, Pub.L. 101–549, 104 Stat. 2399 (codified as amended at 42 U.S.C. §§ 7401–7671 (1990)).

51. 40 C.F.R. pt. 63.1–63.2872 (2010).

52. See *id.*

53. See 40 C.F.R. pt. 63.1

54. Clean Air Act § 112(n), 42 U.S.C. § 7412(n) (2010).

55. Clean Air Act § 112(n)(1)(A)–(C), 42 U.S.C. § 7412(n)(1)(A)–(C) (2010).

56. Regulatory Finding on the Emissions of Hazardous Air Pollutants from Electric Utility Steam Generating Units, 65 Fed. Reg. 24579,825, 24579,826.

57. *Id.* at 79,826.

are the largest anthropogenic source of mercury air emissions.⁵⁸ Consequently, U.S. EPA concluded it was “appropriate and necessary” to include coal plants on the list of significant HAP sources.⁵⁹ U.S. EPA acknowledged this finding triggered its non-discretionary duty to develop MACT standards to control these emissions, an undertaking U.S. EPA proposed to complete by 2003.⁶⁰ By the conclusion of the Clinton Administration, U.S. EPA in workmanlike fashion constructed the framework for regulating mercury emissions from coal plants, carefully adhering to the blueprint it inherited from the previous Administration.⁶¹

IV. THE ADMINISTRATION OF GEORGE W. BUSH—IT IS NOT NECESSARY AND APPROPRIATE TO REGULATE U.S. COAL PLANTS UNDER SECTION 112. MACT DOES NOT APPLY. INSTEAD, A CAP-AND-TRADE APPROACH IS SUBSTITUTED.

The new Bush Administration appeared to have little leeway in developing regulations to control mercury from coal plants.⁶² The Clinton Administration’s 2000 decision to list coal plants as significant sources of mercury triggered U.S. EPA’s non-discretionary duty to determine and implement MACT standards.⁶³ Thus, the 1990 Amendments enacted by the first Bush Administration defined MACT stringently.⁶⁴ For existing coal plants, MACT at a minimum would require individual facilities to meet the mercury emission reductions achieved by the twelve percent best-controlled similar sources.⁶⁵ As a practical matter, this standard would be imposed through regulations as a mercury emission limit and applied to individual coal plants through enforceable permit conditions.⁶⁶

58. ENVTL. PROT. AGENCY: OFFICE OF AIR QUALITY PLANNING AND STANDARDS, EPA-453R-8004A, STUDY OF HAZARDOUS AIR POLLUTANT EMISSIONS FROM ELECTRIC UTILITY STEAM GENERATING UNITS —FINAL REPORT TO CONGRESS, VOL. 1, §7.1.1 (1998), available at <http://www.epa.gov/ttn/caaa/t3/reports/eurtc1.pdf>.

59. Regulatory Finding on the Emissions of Hazardous Air Pollutants from Electric Utility Steam Generating Units, 65 Fed. Reg. at 79,826.

60. *Id.*, U.S. DEP’T OF ENERGY, TOPICAL REPORT NO. 18, ENVIRONMENTAL BENEFITS OF CLEAN COAL TECHNOLOGIES 5 (2001).

61. David B. Spence, *Coal Fired Power in a Restructured Electricity Market*, 15 DUKE ENVTL. L. & POL’Y F. 187, 203 (2005).

62. Clean Air Act § 112(d)(1), 42 U.S.C. § 7412(d)(1) (2010). (“The Administrator *shall* promulgate regulations establishing emission standards. . . .”) (emphasis added).

63. Clean Air Act § 112(d)(2), 42 U.S.C. § 7412(d)(2) (2010) (“Emissions standards promulgated under this subsection and applicable to new or existing sources of hazardous air pollutants *shall require* the maximum degree of reduction in emissions of the hazardous air pollutants subject to this section. . . .”) (emphasis added).

64. Clean Air Act § 112(d)(3)(A) (2010), 42 U.S.C. § 7412(d)(3)(A) (2010).

65. *Id.*

66. 40 C.F.R. § 60 subpart A(a) (2010).

On January 30, 2004, U.S. EPA published its proposed regulations to control mercury from coal-fired electric generating units and requested public comments.⁶⁷ In the first phrase of the first sentence of this Federal Register Notice, U.S. EPA appeared to be setting the stage for the successful conclusion of a fourteen year effort to control mercury emissions by imposing MACT standards.⁶⁸ By the second phrase of this sentence, it was all gone.⁶⁹

In the view of the Bush-era U.S. EPA, it was not bound by the Clinton-era U.S. EPA's decision to regulate coal plants under Section 112.⁷⁰ It asserted it could come to a contrary conclusion if, in the Agency's revised judgment, it was not "appropriate and necessary" to regulate utility plant emissions under Section 112(n).⁷¹ It asserted that its unilateral authority to change course was legally well-grounded in an appropriate interpretation of Section 112(n), the Clean Air Act as a whole, and the legislative history of the Act and its Amendments.⁷²

Freed from Section 112 and its intractable MACT mandate, the Bush-era EPA asserted it was free to propose and seek comments on an alternative mercury cap-and-trade proposal.⁷³ In a remarkable twist in rulemaking, U.S. EPA indicated it was "co-proposing" MACT and the alternative cap-and-trade system and would weigh public comments on both.⁷⁴ In turn, in the first part of the January, 2004 rulemaking package, U.S. EPA described its conclusions about MACT; in the second part, it asserted MACT was not required and described the cap-and-trade alternative it devised.⁷⁵

In March, 2005, U.S. EPA announced its final regulatory decision.⁷⁶ Coal plants were delisted from Section 112.⁷⁷ Thus, MACT was no longer required or even relevant.⁷⁸ The alternative cap-and-trade system, called the Clean Air Mercury Rule (CAMR), was substituted.⁷⁹ U.S. EPA was

67. Proposed Nation Emission Standards for Hazardous Air Pollutants; and, in the Alternative, Proposed Standards of Performance for New and Existing Stationary Sources: Electric Utility Steam Generating Units. 69 Fed. Reg. 20, 4,651, 20, 4,652 (Jan. 30, 2004) (codified at 40 C.F.R. pts. 60 and 63).

68. *Id.*

69. *Id.*

70. *Id.*

71. *Id.*

72. *Id.*

73. *Id.*

74. *Id.*

75. *Id.*

76. Bush revisions, 70 Fed. Reg. at 15,994, *supra* note 2.

77. *Id.*

78. *Id.*

79. *Id.*

explicit in touting the benefits of CAMR over MACT for regulated entities.⁸⁰ Mercury reductions would be achieved largely as a “co-benefit” of pollution controls that coal plants were predicted to install to meet other Clean Air Act requirements.⁸¹ In order to align CAMR with these other requirements, mercury emission reductions would not be fully realized until 2018, a much longer timeline than MACT’s three year implementation schedule.⁸² Unlike MACT’s unyielding command-and-control emission standards, facilities operating under CAMR were given much more flexibility to achieve and demonstrate mercury reductions.⁸³ Under CAMR, a coal plant that did not meet mercury emission targets could purchase mercury credits from an over-complying counterpart.⁸⁴

The Bush Administration’s attempt to fundamentally change the course of mercury regulations ended unsuccessfully.⁸⁵ The most vigorous opponents were several states. A group of fourteen states joined forces with environmental organizations to petition the Bush Administration to reconsider its decision to delist coal plants from Section 112 and, in turn, to substitute CAMR.⁸⁶ When U.S. EPA reaffirmed its decisions, these Petitioners challenged U.S. EPA’s action in the D.C. Circuit Court of Appeals.⁸⁷

The legal basis for the Petitioners’ appeal was straightforward. They acknowledged that sources like coal plants can be delisted from Section 112.⁸⁸ In fact, Section 112(c)(9) plainly delineates U.S. EPA’s authority to delist sources and includes the specific factors the Agency must demonstrate to justify delisting.⁸⁹ In the Petitioners’ view, the plain language of Section 112(c)(9) dictates that once any source is listed, it can be delisted only if the Agency determines that (1) source emissions do not exceed a level which is adequate to protect public health with an ample margin of safety, and (2) no adverse environmental effect will result from any source.⁹⁰ Petitioners argued that because the Agency did not act consistent-

80. *Id.*

81. *Id.* at 16,010.

82. *Id.* at 16,017.

83. Compare *Id.* at 16027; with Clean Air Act § 112(d)(3)(A), 42 U.S.C. § 7412(d)(3)(A) (2010).

84. Bush Revisions, 70 Fed. Reg. at 16027, *supra* note 2.

85. See *New Jersey v. EPA*, 517 F.3d 574 (D.C. Cir. 2008).

86. *Fact Sheet Reconsidering Two Mercury Actions*, ENVTL. PROT. AGENCY (May 31, 2006), <http://www.epa.gov/CAMR/fs20060531.html>.

87. See *New Jersey*, 517 F.3d 574.

88. Brief for Petitioner at 14, *New Jersey v. EPA*, 517 F.3d 574 (D.C. Cir. Jan. 11, 2007 (No. 05-1097)), 2007 WL 408189, at *14.

89. *Id.*

90. *Id.*

ly with 112(c)(9), it could not delist coal plants, avoid MACT, or substitute CAMR.⁹¹

The U.S. EPA conceded it did not justify its delisting decision under Section 112(c)(9).⁹² Nonetheless, the Agency asserted an omnibus authority under 112(n) to delist some sources including coal plants whenever it unilaterally decided listing was no longer “appropriate and necessary.”⁹³ Essentially, both the Petitioners and the U.S. EPA agreed the issue before the Court of Appeals could be resolved by the appropriate interpretation of Section 112.⁹⁴ However, they disagreed what that interpretation should be.⁹⁵

The Court of Appeals wholly agreed with the Petitioners and, in a stinging defeat for the Administration, came to this conclusion on the basis of the clear, plain language of the statute.⁹⁶ The delisting provisions of Section 112(c)(9) explicitly apply to “any source” that is listed.⁹⁷ In light of the plain and wholly inclusive scope of the phrase “any source,” the Agency can only engage in delisting on the basis of 112(c)(9).⁹⁸ By contrast, in delisting coal plants the U.S. EPA did not invoke Section 112(c)(9) and did not justify its decision based on the explicit delisting criteria mandated in this provision.⁹⁹ Consequently, the delisting was invalid.¹⁰⁰ The substitution of CAMR was invalid. CAMR was vacated.¹⁰¹

While this legal challenge was pending, several states availed themselves of an “opt-out” provision in CAMR.¹⁰² CAMR allowed states to opt out of CAMR and to develop state-specific mercury control regimes as long as they achieved equal or better mercury reductions.¹⁰³ This is consistent with a Clean Air Act provision that authorizes states and units of local government to develop regulations for industrial and commercial sources that exceed federal standards.¹⁰⁴ According to the National Association of

91. *Id.*

92. Brief for Respondent at 28, *New Jersey v. EPA*, 517 F.3d 574 (D.C. Cir. July 23, 2007) No. 05-1097), 2007 WL 3231264, at *25.

93. *Id.*

94. *See id.*; *but see* Brief for Petitioner, *supra* note 88, at 14.

95. *See* Brief for Respondent, *supra* note 92, at 28; *but see* Brief for Petitioner, *supra* note 88, at 28.

96. *New Jersey*, 517 F.3d at 583.

97. *Id.* at 582.

98. *Id.* at 583.

99. *Id.* at 579.

100. *Id.* at 583.

101. *Id.*

102. *Bush Standards*, 70 Fed. Reg. at 28,632, *supra* note 1.

103. *Id.* at 28,618.

104. Clean Air Act § 116, 42 U.S.C. § 7416 (2010).

Clean Air Agencies, fourteen states adopted their own approaches to regulate coal plant mercury emissions.¹⁰⁵ In most of these states, including Connecticut, Massachusetts, New Jersey, Delaware, Minnesota, Illinois, and Colorado, the regulations were expressed as MACT-like standards requiring reductions by a deadline.¹⁰⁶ These standards are expressed as capture rate (mercury content of coal versus the percentage of mercury in stack emissions, commonly 90 percent reduction) or as a volume of mercury emitted per unit of energy generated (for example, Connecticut's standard of 0.6 lbs Hg/TBtu).¹⁰⁷

In states like Illinois, the operators of coal plants are now implementing the technologies to achieve these ambitious mercury emission reductions.¹⁰⁸ For most facilities, this is technically feasible by retrofitting sorbent injection systems.¹⁰⁹ Sorbent injection systems are a well established mercury control technology.¹¹⁰ A sorbent, commonly activated carbon, is blown into the hot gas that flows from the boiler toward the facility smokestack.¹¹¹ The mercury in this gas adheres to the injected sorbent material.¹¹² The sorbent and its attached mercury can then be removed by the particulate matter collection systems that are already part of every plant's pollution control equipment.¹¹³ Sorbent injection systems are inexpensive, prefabricated units that can be connected into existing facility ductwork quickly and with little (if any) facility downtime.¹¹⁴ The ease and inexpensive nature of retrofitting sorbent injection systems significantly defuses arguments that even stringent mercury limits are technically infeasible, unduly burdensome on power plant operators, or likely to cause consumer electricity costs to rise.¹¹⁵

By the conclusion of the second Bush Administration, the U.S. EPA's Clinton-era decision to list coal plants as significant mercury sources

105. See Nat'l ASS'N OF CLEAN AIR AGENCIES, *supra* note 4.

106. *Id.* at 2–4, 9–10, 13–15.

107. *Id.* at 1.

108. See DYNEGY ENERGY, *Dynegy Operations in ILLINOIS*, <http://www.dynegy.com/downloads/Dynegy-Illinois-Factsheet.pdf> (last visited July 12, 2010).

109. INSTITUTE OF CLEAN AIR COMPANIES, *Sorbent Injection Technology for Control of Mercury Emissions from Coal-Fired Boilers*, 1, http://www.icac.com/files/public/ICAC_Sorbent_Injection_Fact_Sheet_051506.pdf (last visited July 12, 2010). [hereinafter Sorbent].

110. *Id.* at 1 (“This technology has been used for the past two decades to control mercury from waste combustion gas streams in both the United States and Europe”).

111. *Id.* at fig.1.

112. *Id.* at 2.

113. *Id.*

114. *Id.* at 1.

115. *Id.* at fig.3.

emerged intact.¹¹⁶ A few states successfully imposed MACT-like requirements on their coal-fired power plants.¹¹⁷ Still, after eight years, most coal plants were no closer to installing mercury controls than they were when Bill Clinton left office.¹¹⁸

V. THE ADMINISTRATION OF BARACK OBAMA—PURSUANT TO SECTION 112, U.S. EPA WILL DEVELOP MACT STANDARDS TO CONTROL MERCURY EMISSIONS FROM COAL-FIRED POWER PLANTS

One of the first acts of the new Obama Administration addressed mercury and coal-fired power plants. On February 6, 2009, the Department of Justice on behalf of the U.S. EPA asked the Supreme Court to dismiss EPA's Petition seeking review of the D.C. Circuit's vacating of CAMR.¹¹⁹ In addition to granting this request, on February 23, 2009, the Supreme Court also denied an industry request to review the U.S. Circuit Court of Appeals decision.¹²⁰ CAMR is dead; however, in its absence, there is no federal regime to control mercury and other HAPs from coal plants.¹²¹

The Obama Administration intends to fill this gap in its first term.¹²² To this end, U.S. EPA is clearly stating its regulatory agenda—it will develop standards consistent with the D.C. Circuit's 2008 opinion.¹²³ This means that Section 112 and MACT standards will apply.¹²⁴ Consistent with this regulatory policy, U.S. EPA is now requiring all coal-fired electric generating units to submit emissions information.¹²⁵ U.S. EPA anticipates proposing an air toxics standard by March 16, 2011 and finalizing a rule by November 16, 2011.¹²⁶

In one way, the Obama EPA's initiative to determine and impose MACT simply follows the Clinton Administration's 2000 decision to list

116. *New Jersey v. EPA*, 517 F.3d 574, 583 (D.C. Cir. 2008) (reinstating listing); *see also* Clean Air Act § 112(d)(3)(A), 42 U.S.C. § 7412(d)(3)(A) (2010).

117. NAT'L ASS'N OF CLEAN AIR AGENCIES, STATE MERCURY PROGRAMS FOR UTILITIES, *supra* note 4 at 2–5, 9–10, 13–15.

118. *See id.* (listing fourteen states that regulate mercury emissions from listed facilities).

119. *Clean Air Mercury Rule*, ENVTL. PROT. AGENCY, www.epa.gov/CAMR/index.htm (last updated Jan. 20, 2010); *See also* Motion of the Petitioner to Dismiss at 1, *EPA v. New Jersey*, No. 08-512 (Feb. 2009).

120. *Clean Air Act Mercury Rule*, *supra* note 119.

121. *Id.* (“EPA intends to propose air toxics standards. . .”).

122. *Id.*; *see also* Rebecca Trager, *Change Has Come to America*, CHEMISTRY WORLD (Apr. 2009), www.rsc.org/chemistryworld/Issues/2009/April/ChangeHasComeToAmerica.asp.

123. *Technology Transfer Network Air Toxics Web Site*, *supra* note 3.

124. *Id.*

125. *Id.*

126. *Id.*

coal plants, albeit after a delay of more than ten years.¹²⁷ In another way, the Obama EPA will be the beneficiary of technology-forcing state initiatives during this intervening period.¹²⁸ The mercury controls retrofitted by operators in states like Illinois are directly relevant to determining what MACT limits will be throughout the country.¹²⁹ The regulatory proposal will be strengthened by many practical examples of facilities that are achieving substantial mercury emission reductions by retrofitting relatively inexpensive, commercially available technologies.¹³⁰

CONCLUSION

The twenty year effort to regulate mercury from coal plants reveals some important and disquieting aspects of environmental protection during this era. This drama clearly demonstrates how political considerations influence U.S. EPA's activities. In the period between November, 2000 and January, 2004, U.S. EPA changed its judgment on fundamental aspects of its legal responsibilities under the Clean Air Act.¹³¹ During this same period, U.S. EPA's judgment about public health and technical aspects of regulating mercury also changed.¹³² By 2009, the Agency reverted to its original positions.¹³³ This episode raises significant questions about the independence and credibility of an Agency that appears to blow so easily with political winds, yet expresses its regulatory decisions as if they are anchored in scientific, technical and legal bedrock.

As U.S. EPA is blown from one point of view to another and back again, states are left twisting in the wind. CAMR was rejected by several states but even those states that acquiesced to CAMR now suffer the consequences.¹³⁴ As a practical consequence, in those states that deferred to U.S. EPA to develop mercury regulations, there continues to be no regulation of mercury from coal plants.¹³⁵ Among states that rejected CAMR and

127. Compare *Clean Air Mercury Rule*, *supra* note 119, with Regulatory Finding on the Emissions of Hazardous Air Pollutants from Electric Utility Steam Generating Units. 65 Fed. Reg. at 79,826, *supra* note 56.

128. See generally *Sorbent*, *supra* note 109.

129. NAT'L ASS'N OF CLEAN AIR AGENCIES, *supra* note 4, at 9.

130. See e.g. *Sorbent*, *supra* note 109.

131. See Bush Revisions, 70 Fed. Reg. at 16027, *supra* note 2.

132. Bush Standards. 70 Fed. Reg. at 28,632, *supra* note 1.

133. Motion of the Petitioner to Dismiss at 1, *EPA v. New Jersey*, 517 F.3d 574 (Feb. 2009) (No. 08-512).

134. NAT'L ASS'N OF CLEAN AIR AGENCIES, STATE MERCURY PROGRAMS FOR UTILITIES, *supra* note 6 at 5-13, 16-18.

135. *Clean Air Act Mercury Rule*, *supra* note 119.

developed their own regulations, the regulatory programs are uneven and face an uncertain future when new federal regulations are promulgated.¹³⁶ Finally, it would be naïve not to identify the entities that have benefited from this regulatory back-and-forth. To date, the owners and operators of most coal-fired power plants have avoided a new set of regulations and the new costs associated with compliance. Moreover, because there has never been final U.S. EPA action establishing mercury MACT regulations for coal plants, this industry (and those aligned with it) will still have an opportunity to challenge regulations the Obama Administration issues. Consequently, it is entirely possible the decision of the second Bush Administration to derail MACT in favor of CAMR will culminate in a ten year delay in establishing federal mercury controls for coal plants. The effects of this delay can be calculated in terms of avoided industry costs. Unfortunately, it can also be calculated in terms of thousands of pounds of additional mercury emissions and the enduring impact of these emissions on the environment and public health.

136. Compare NAT'L ASS'N OF CLEAN AIR AGENCIES, STATE MERCURY PROGRAMS FOR UTILITIES, *supra* note 6 at 2-4, 9-10, 13-15, with NAT'L ASS'N OF CLEAN AIR AGENCIES, STATE MERCURY PROGRAMS FOR UTILITIES, *supra* note 6 at 5-13, 16-18.