

NEW SOURCE PERFORMANCE STANDARDS FOR COAL-FIRED ELECTRIC POWER PLANTS

On June 11, 1979, the Environmental Protection Agency (EPA) promulgated New Source Performance Standard regulations (NSPS)¹ governing air pollution emissions from new coal-fired electric utility generating plants as required by the Clean Air Act Amendments of 1977.² Under the 1977 amendments, the NSPS must require a reduction of emissions by a certain percentage of the uncontrolled level,³ where only an absolute emission ceiling had been imposed previously.⁴

This Development outlines the background of the 1979 NSPS and examines environmentalists' objections to the SO₂ standard.⁵ Environmentalists argue that the adopted nonuniform standard, which imposes different reduction standards for different types of coal, is per se impermissible and that the standard is too lenient. Furthermore, it is argued that at the very least EPA must reopen the comment period and reconsider the rule because of improper *ex parte* communications from interested parties after the original public comment period had ended.

I .

BACKGROUND

Prior to 1970,⁶ emissions from stationary sources were regulated exclusively by the states.⁷ Concerned that states were enacting lenient stationary source standards in order to compete with each other for

1. *Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced after September 18, 1978*, 40 C.F.R. §§ 60.40a-49a (1979).

2. Pub. L. No. 95-95, § 109(b)(3), 91 Stat. 701 (amending § 111(b), codified at 42 U.S.C. § 7411(b)(6) (Supp. I 1977)). The Clean Air Act Amendments of 1977 are the most recent of a series of amendments to the original Clean Air Act of 1955, ch. 360, 69 Stat. 322. The 1977 amendments made extensive additions and revisions to the Clean Air Act and subsequent references to the 1977 amendments will be to the current code as amended.

3. Clean Air Act § 111(a)(1)(A)(ii), 42 U.S.C. § 7411(a)(1)(A)(ii) (Supp. I 1977).

4. 40 C.F.R. § 60.43(a) (1979). This regulation implements § 4(a) of the Clean Air Act Amendments of 1970, Pub. L. No. 91-604, 84 Stat. 1683 (current version at 42 U.S.C. § 7411(a) (Supp. I 1977)).

5. The 1979 NSPS covers emissions of sulfur dioxide (SO₂), 40 C.F.R. § 60.43a (1979); nitrogen oxides (NO_x), *id.* § 60.44a; and particulates. *Id.* § 60.42a. Since, however, the controversy over the 1979 NSPS has primarily concerned the SO₂ standards, the NO_x and particulates regulations will not be discussed. For a recent study of the health effects of SO₂ emissions, see *Health and Environmental Effects of Increased Use of Coal Utilization*, 43 Fed. Reg. 2,229 (1978).

6. The Air Quality Act of 1967, Pub. L. No. 90-148, §§ 201-212, 81 Stat. 485 (current version at 42 U.S.C. §§ 7401-7642 (Supp. I 1977)), regulated only emissions from vehicles.

7. H.R. REP. NO. 91-1146, 91st Cong., 2d Sess. 3, *reprinted in* [1970] U.S. CODE CONG. & AD. NEWS 5356, 5358 [hereinafter cited as 1970 HOUSE REPORT].

industry,⁸ Congress enacted the Clean Air Act Amendments of 1970⁹ to establish a system of uniform national emissions limits on new stationary sources.¹⁰ The 1970 amendments directed EPA to identify categories of new stationary sources that "may contribute significantly to air pollution which causes or contributes to the endangerment of public health or welfare"¹¹ and to promulgate emission standards that reflect "the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such emission reduction) . . . has been adequately demonstrated."¹²

In 1971 EPA promulgated NSPS for sulfur dioxide emissions from new power plants.¹³ The 1971 NSPS required utilities to limit SO₂ emissions to 1.2 pounds per million British thermal units (Btu's) of heat generated by the combustion of the coal.¹⁴ Many new coal plants were able to comply with this standard without treating the emissions by burning low-sulfur "compliance" coal.¹⁵ Low-sulfur coal is found primarily in the western states of Montana, Wyoming, and Colorado, while intermediate- and high-sulfur coals are extracted in the midwestern and Appalachian supply regions.¹⁶ After the adoption of the 1971 NSPS, many midwestern and eastern utilities that had previously used locally available coal found that importing compliance coal was often less costly than installing and operating emission reduction equipment.¹⁷ As a result, extraction of low-sulfur western coal was increased at the expense of coal production in midwestern and eastern regions.¹⁸

Despite the 1971 NSPS, SO₂ emissions from coal-fired power plants continued to be a problem.¹⁹ While an emissions ceiling limited the absolute level of emissions, it did not require use of the best avail-

8. H.R. REP. NO. 294, 95th Cong., 1st Sess. 184, *reprinted in* [1977] U.S. CODE CONG. & AD. NEWS 1077, 1263 [hereinafter cited as 1977 HOUSE REPORT].

9. Pub. L. No. 91-604, 84 Stat. 1676 (current version at 42 U.S.C. §§ 7401-7642 (Supp. I 1977)).

10. *Id.* § 4(a) (creating § 111, current version at 42 U.S.C. § 7411 (Supp. I 1977)).

11. *Id.* (§ 111(b)(1)(A), current version at 42 U.S.C. § 7411(b)(1)(A) (Supp. I 1977)).

12. *Id.* (§ 111(a)(1), current version at 42 U.S.C. § 7411(a)(1) (Supp. I 1977)).

13. 40 C.F.R. § 60.43 (1979).

14. *Id.* § 60.43(a)(2).

15. Badger, *New Source Standard for Power Plants I: Consider the Costs*, 3 HARV. ENV'T'L L. REV. 48, 50 (1979).

16. *Id.* Intermediate- and high-sulfur coals have a sulfur content, for the purposes of the 1971 NSPS, of 1.2 to 8.0 pounds SO₂ per million Btu's. *Id.* Compare the definitions for high- and low-sulfur coals under the 1979 NSPS in text accompanying note 30 *infra*.

17. Badger, *supra* note 15, at 50.

18. *Id.* at 50 n.18.

19. EPA New Stationary Sources Performance Standards; Electric Utility Steam Generating Units, 44 Fed. Reg. 33,580, 33,587 (1979) [hereinafter cited as Preamble to 1979 NSPS]. In 1976 fossil fuel-fired power plants contributed 65% of the total nationwide emissions of SO₂. *Id.*

able technology regardless of the absolute emissions level achieved.²⁰ Environmentalists argued that this did not meet the intent of the Act.²¹ Congress additionally was concerned about the competitive edge given western coal under the 1971 NSPS.²²

In response to these concerns, Congress amended the Clean Air Act in 1977²³ to prohibit new source compliance solely through burning low-sulfur coal.²⁴ The amendments required EPA to promulgate new NSPS that would "reflect the degree of emission limitation and the percentage reduction achievable through application of the best *technological* system of continuous emission reduction which (taking into consideration the cost of achieving such emission reduction, and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated."²⁵ By addition of the word "technological,"²⁶ Congress intended that the NSPS include a "requirement for a percentage reduction in pollution from untreated fuel" in order to "preclude use of untreated low-sulfur coal alone as a means of compliance."²⁷

EPA issued the final regulations implementing the 1977 amendments on June 11, 1979.²⁸ The 1979 NSPS retains the same overall emissions ceiling as the 1971 NSPS, 1.2 pounds SO₂ per million Btu's.²⁹ In order to comply with the additional requirement that emissions be reduced from each new plant, the 1979 NSPS requires utilities to reduce emissions from all coals by a certain percentage, even if uncontrolled emissions would be below the absolute ceiling. The percentage reduction requirement is not uniform, however, for all coal: ninety percent of the SO₂ emissions must be removed from high-sulfur coal (the uncontrolled emissions from which would be greater than or equal to six pounds SO₂ per million Btu's) while the emissions from low-sulfur coal (with uncontrolled emissions less than six pounds SO₂) need only be reduced by seventy percent.³⁰

None of the primary interest groups that participated in the

20. 1977 HOUSE REPORT, *supra* note 8, at 184-85, *reprinted in* [1977] U.S. CODE CONG. & AD. NEWS 1262-63.

21. *See generally* Ayres & Doniger, *New Source Standard for Power Plants II: Consider the Law*, 3 HARV. ENV'T L. REV. 63 (1979).

22. *Id.* at 187.

23. Clean Air Act Amendments of 1977, Pub. L. No. 95-95, 91 Stat. 685 (codified at 42 U.S.C. §§ 7401-7642 (Supp. I 1977)).

24. Clean Air Act § 111(a)(1)(A)(ii), 42 U.S.C. § 7411(a)(1)(A)(ii).

25. *Id.* § 111(a)(1)(C), 42 U.S.C. § 7411(a)(1)(C) (emphasis added).

26. For the language of the 1970 Amendments, see text accompanying note 12 *supra*.

27. H.R. REP. NO. 95-564, 95th Cong., 1st Sess. 130 *reprinted in* [1977] U.S. CODE CONG. & AD. NEWS 1502, 1510 [hereinafter cited as 1977 HOUSE CONFERENCE REPORT].

28. 40 C.F.R. §§ 60.40a-.49a (1979). The 1979 NSPS covers plants whose construction or modification was begun after September 18, 1978. *Id.* § 60.40a(a)(2).

29. *Id.* § 60.43a(a)(1).

30. *Id.* § 60.43a(a)(1), (2).

rulemaking is satisfied with the 1979 NSPS. Environmentalists object to the nonuniform percentage reduction requirement, EPA's failure to lower the emissions ceiling, and procedural irregularities in the rulemaking. Utilities argue that technology to meet the ninety percent reduction requirement has not been adequately demonstrated³¹ and that the new standard will decrease total coal production.³²

Shortly after EPA promulgated the 1979 NSPS, several environmental and utility groups submitted petitions for reconsideration.³³ EPA has announced that it will not reconsider the regulations,³⁴ and the parties have appealed this decision³⁵ in the District of Columbia Circuit Court of Appeals.³⁶

II

ENVIRONMENTALISTS' OBJECTIONS TO THE 1979 NSPS

A. The Legality of a Nonuniform Percentage Reduction Requirement

Environmentalists argue that a nonuniform percentage reduction requirement is improper. The 1977 amendments, however, neither specifically allow nor prohibit a nonuniform percentage reduction requirement.³⁷ The Conference Report on the amendments does, however, contain language strongly supportive of EPA's authority to adopt a nonuniform standard under limited circumstances:

[I]n establishing a national percentage reduction for new fossil fuel-fired sources, the Conferees agreed that the Administrator may, in his discretion, set a range of pollutant reduction that reflects varying fuel characteristics. Any departure from the uniform national percentage reduction requirement, however, must be accompanied by a finding that such a departure does not undermine the basic purpose of the

31. Badger, *supra* note 15, at 53 n.35.

32. [1979] 10 ENVIR. REP. (BNA) 143, 144; *see* Preamble to 1979 NSPS, *supra* note 19, at 33,609, table 4.

33. Petitions were submitted by the Environmental Defense Fund, which was joined by the Natural Resources Defense Council, the Kansas City Power and Light Company, Sierra Club, Sierra Pacific Power Company, Idaho Power Company, the State of California Air Resources Board, and the Utility Air Regulatory Groups. *See* Standards of Performance for New Stationary Sources; Electric Utility Steam Generating Units; Decisions in Response to Petitions for Reconsideration, 45 Fed. Reg. 8,210 (1980) [hereinafter cited as Denial of Petitions for Reconsideration].

34. 45 Fed. Reg. 8,210 (1980).

35. Telephone conversation with Robert J. Rauch, Staff Attorney, Environmental Defense Fund (Feb. 15, 1980); telephone conversation with Joseph Brecher, attorney for Sierra Club (Feb. 15, 1980).

36. Exclusive jurisdiction for review of EPA actions in promulgating any NSPS resides with the Court of Appeals for the District of Columbia Circuit. Clean Air Act § 307(b)(1), 42 U.S.C. § 7607(b)(1) (Supp. I 1977).

37. The 1977 Amendments simply require "the achievement of a percentage reduction in emissions." Clean Air Act § 111(a)(1)(A)(ii), 42 U.S.C. § 7411(a)(1)(A)(ii) (Supp. I 1977).

House provision and other provisions of the act, such as maximizing the use of locally available fuels.³⁸

This language was inserted at the request of Senator Peter Domenici, who felt that the extra cost of scrubbing low-sulfur coal to remove the same portion of SO₂ as from high-sulfur coal might be unwarranted.³⁹ The 1977 amendments specifically permit consideration of the cost of emission reduction in setting the NSPS.⁴⁰

Nevertheless, environmentalists argue that a nonuniform percentage reduction requirement is improper for two reasons. First, nonuniform percentage reduction undermines several purposes of the amendments in violation of the very words of the "Domenici clause."⁴¹ Second, the statute does not allow exceptions from a uniform standard for the purpose of stimulating development of new emission reduction technology.⁴² EPA's rationale that the seventy percent reduction requirement is necessary to encourage "dry scrubbing" technology is, therefore, improper.⁴³

1. *Undermining the Purposes of the 1977 Amendments*

One of the purposes of the 1977 amendments that the Conferees were apparently most concerned would be "undermined" by a nonuniform standard was "maximizing the use of locally available fuels."⁴⁴ As noted above, the absence of any percentage reduction requirement under the 1971 NSPS caused some eastern utilities to buy western low-sulfur compliance coal in order to save the expense of controlling emissions technologically.⁴⁵ By requiring that emissions from low-sulfur coal also be treated, the 1979 NSPS will reduce the economic advantage of using western coal. But since any reduction re-

38. 1977 HOUSE CONFERENCE REPORT, *supra* note 27, at 130, *reprinted in* [1977] U.S. CODE CONG. & AD. NEWS 1511 (remarks of Sen. Domenici). EPA relied on this language as authority for establishing a nonuniform percentage reduction requirement. Preamble to 1979 NSPS, *supra* note 19, at 33,596-97.

39. 123 CONG. REC. S9477 (daily ed. June 10, 1977). Domenici referred to "the needless expense of scrubbing low-sulfur coal to the same percentage reduction than [*sic*] that required for high-sulfur coal," arguing that "the low-sulfur coal with less scrubbing would be, in many instances, well below the requirements of the [NSPS, while] [t]he cost to the consumer will greatly increase if all new coal-fired plants have to meet the same percentage reduction, regardless of the sulfur content of the coal." *Id.* (emphasis added).

40. Clean Air Act, § 111(a)(1)(C), 42 U.S.C. § 7411(a)(1)(C) (Supp. I 1977); 1977 HOUSE REPORT, *supra* note 8, at 2, *reprinted in* [1977] U.S. CODE CONG. & AD. NEWS 1079.

41. Ayres & Doniger, *supra* note 21, at 78-80.

42. See text accompanying notes 76-79 *infra*.

43. *Id.*

44. See text accompanying note 38 *supra*.

45. See text accompanying notes 17-18 *supra*. The expense of emission controls can be reduced by directing less than all of the flue gas through the desulfurization equipment. The untreated portion of the gas can be used to heat the treated portion, which has cooled, in order to increase the plume buoyancy, thus reducing or eliminating the need to expend energy for flue gas reheat. Preamble to 1979 NSPS, *supra* note 19, at 33,583.

quirement that is more lenient for low-sulfur coal gives western coal an economic advantage, a literal reading of the second sentence of the Domenici clause would prohibit "any departure from a uniform national percentage reduction requirement."⁴⁶

The Conferees must have intended, on the other hand, that the Domenici clause, which grants EPA authority to depart from a uniform standard, have some meaning. The qualification in the second sentence of the clause—that any departure from a uniform standard shall not "undermine" the maximization of the use of locally available fuels—should not be read to prohibit a nonuniform standard. Rather, it should be interpreted as granting EPA the authority to balance the adverse impact of a nonuniform standard on eastern coal production against the benefits of such a standard, including reduced emission control costs, lower short-term SO₂ emissions,⁴⁷ and reduced energy consumption.⁴⁸

EPA contends that the marginal reduction in use of local coal resulting from a nonuniform standard will be inconsequential⁴⁹ compared to the impact on local coal use of other variables, such as labor costs, oil prices, electricity demand, severance taxes, and rail rates.⁵⁰ According to EPA, any NSPS-induced shift to western coal will be insignificant in light of expected increases in eastern, high-sulfur coal production.⁵¹ Thus it would be difficult to conclude that the nonuniform standard alone will undermine maximization of the use of local fuels.

A second important purpose of the Clean Air Act is minimizing emissions.⁵² Although it might appear that the nonuniform standard adopted would reduce emissions less than a uniform ninety percent reduction standard for all coals—thereby undermining the amendments—EPA claims that the opposite is true, at least until 1995.⁵³ As

46. See text accompanying note 38 *supra*.

47. See text accompanying notes 52-61 *infra*.

48. According to EPA, the adopted nonuniform reduction requirement will reduce oil consumption by 200,000 barrels per day by 1995 as compared to the uniform 90% requirement. Under the adopted standard, oil consumption by power plants in 1995 is predicted to be 1.6 million barrels per day, while under the stricter standard consumption should be 1.8 million barrels per day. Preamble to 1979 NSPS, *supra* note 19, at 33,609, table 4.

49. EPA has predicted that the amount of western coal shipped east in 1995 would be 59 million tons under a uniform 90% standard and 71 million tons under the adopted nonuniform standard. *Id.*

50. [1978] 9 ENVIR. REP. (BNA) 543, 544.

51. Preamble to 1979 NSPS, *supra* note 19, at 33,583.

52. See § 101(b), 42 U.S.C. § 7401(b) (Supp. I 1977); 1977 HOUSE REPORT, *supra* note 8, at 2, *reprinted in* [1977] U.S. CODE CONG. & AD. NEWS 1079.

53. EPA contends that emissions will be "equal or lower" under the adopted standard than under the uniform standard. Preamble to 1979 NSPS, *supra* note 19, at 33,607. A uniform percentage reduction requirement is not, of course, sought for its own sake, but instead is sought in conjunction with a strict reduction standard, *i.e.*, 90% or higher.

the percentage reduction requirement and accompanying costs of operating new plants increase, utilities will be more likely to delay construction of new plants.⁵⁴ Consequently, more of the old, "dirty" plants will remain in use, resulting in increased emissions.⁵⁵ EPA has determined that total emissions will be minimized under the regulations adopted, particularly if dry scrubbing becomes feasible.⁵⁶

The emissions advantage of the adopted standard over the stricter uniform ninety percent standard will be limited to the short run, however. The "stretching out" phenomenon can operate only so long as old power plants are in existence. Many old plants will be retired shortly after 1995.⁵⁷ A stricter uniform standard imposed now would result in lower total emissions than the more lenient nonuniform standard when all old plants have been replaced because all plants then existing would be subject to stricter NSPS.⁵⁸ Even though the more lenient standard may result in lower emissions in 1995 when some old plants still exist,⁵⁹ it must necessarily result in higher emissions than a stricter standard shortly after 1995.⁶⁰

It is questionable, though, whether this qualification to the emissions advantage establishes that the nonuniform standard will undermine the emissions limitation purpose of the amendments. Any long-term emissions disadvantage is too speculative to form the basis for rational rulemaking, since the impact of the 1979 NSPS on emissions after 1995 could be overwhelmed by the impact of changes in supply, demand, technology, statutes, and regulations⁶¹ that could not be forecast with any meaningful degree of accuracy.

2. *Nonuniform Standards Used for an Unauthorized Purpose*

The second substantive objection to the nonuniform percentage reduction requirement is that the nonuniform standard is being used for a purpose not allowed by the Act—stimulating development of "dry scrubbing" technology.

The most widely used flue gas desulfurization (FGD) system at the

54. *Id.*

55. *Id.*; Badger, *supra* note 15, at 57.

56. Preamble to 1979 NSPS, *supra* note 19, at 33,608, table 2.

57. *Id.* at 33,605.

58. The 1979 standards will probably apply only to plants built before September 18, 1982, since EPA must review the NSPS at least every four years and revise the standard "if appropriate." Clean Air Act § 111(b)(1)(B), 42 U.S.C. § 7411(b)(1)(B) (Supp. I 1977). The standards will probably be tightened in future revisions, as emission control technology improves. Statement of Douglas Costle, Administrator, Environmental Protection Agency, [1979] 10 ENVIR. REP. (BNA) 143, 144.

59. Preamble to 1979 NSPS, *supra* note 19, at 33,605.

60. It has been estimated that the changeover will occur as soon as the year 2000. Ayres & Doniger, *supra* note 21, at 81 n.92.

61. See note 58 *supra*.

present time is a process known as "wet scrubbing."⁶² In this process a limestone slurry is mixed with the power plant's exhaust gas.⁶³ The slurry removes the SO₂ from the exhaust and produces a sulfur-bearing sludge.⁶⁴ A "dry scrubbing" process has also been developed.⁶⁵ Rather than injecting a slurry into the gas, dry reagents such as lime or sodium carbonate⁶⁶ are mixed with the gas, and the SO₂ is absorbed on the surface of the finely ground solids.⁶⁷ EPA claims that dry scrubbing has a demonstrated capability of removing fifty to eighty-five percent of the SO₂⁶⁸ at three-fourths the cost of wet scrubbing,⁶⁹ resulting in a savings of more than one billion dollars annually,⁷⁰ as well as greater reliability, less consumption of water and energy, and easier disposal of the waste product.⁷¹

EPA established the lower seventy percent reduction requirement as an incentive to development of dry scrubbing technology,⁷² which at this time can only be used in conjunction with low-sulfur coal.⁷³ EPA based this decision on the rationale, offered by Senator Domenici, that ultimately led to the inclusion of the Domenici clause in the Conference report:⁷⁴

[Under a uniform percentage reduction requirement] technological innovation will be stymied. [A] new cheap process for reducing the sulfur content of low sulfur coal that did not achieve exactly the same percentage reduction as that required of high sulfur coal would be banned . . . despite the fact that such a process could be vastly cheaper, and also allow for significant reduction in sulfur emissions.⁷⁵

Proponents of the uniform reduction standard have argued that

62. Rubin & Nguyen, *Energy Requirements of a Limestone FGD System*, 28 AIR POLLUTION CONT. A.J. 1207 (1978).

63. *Id.* at 1207-08.

64. *Id.* Congress required EPA to consider "any nonair quality health and environmental" impact when setting the new NSPS. See text accompanying note 25 *supra*.

65. Although experimentation with dry scrubbing dates back 65 years, *A History of Flue Gas Desulfurization Systems Since 1850*, 27 AIR POLLUTION CONT. A.J. 948, 952 (1977), the development of dry SO₂ controls has progressed rapidly since 1978. Preamble to 1979 NSPS, *supra* note 19, at 33,582.

66. *Dry Scrubbing Key Question in Setting Electric Plant NSPS*, [1979] 10 ENVIR. REP. (BNA) 4.

67. *A History of Flue Gas Desulfurization Systems Since 1850*, 27 AIR POLLUTION CONT. A.J. 948, 952 (1977).

68. Preamble to 1979 NSPS, *supra* note 19, at 33,582. According to EPA, a 70% reduction standard makes dry scrubbing "technically feasible and economically attractive in comparison to wet scrubbing." *Id.* at 33,594.

69. *Id.* at 33,594.

70. *Id.* at 33,583.

71. *Id.* at 33,582.

72. See note 68 *supra*.

73. Preamble to 1979 NSPS, *supra* note 19, at 33,582.

74. *Id.* at 33,582-83.

75. 123 CONG. REC. S9477 (daily ed. June 10, 1977) (remarks of Sen. Domenici).

the 1977 amendments prohibit this special treatment.⁷⁶ They rely on the terms of section 111(j) of the Act,⁷⁷ which allows EPA to grant waivers from existing pollution control requirements to utilities planning to build new plants with innovative emission reduction technology only if "(i) the proposed system or systems have not been adequately demonstrated, [and] (ii) . . . there is a substantial likelihood that such system or systems will achieve greater continuous emission reduction than that required to be achieved under the standards of performance which would otherwise apply."⁷⁸ Under this argument, if the seventy percent standard is necessary to promote the development of dry technology because that process is incapable of achieving a higher level of emission reduction, the standard is then essentially a waiver for a system less effective than is required by law.⁷⁹ If this interpretation is correct, the standard is prohibited by section 111(j).

This argument encounters difficulties, though, in the language of the statute. Section 111(j), which refers to waivers from existing emission reduction standards, does not on its face prohibit new regulations from being designed to promote new technologies, regardless of their efficacy.⁸⁰ Whatever applicability section 111(j) might have by analogy to promulgation of new standards is overshadowed by the language of the Domenici clause⁸¹ and the absence of any conflicting language in the statute or committee reports. On the contrary, it seems more likely that the statutory language authorizing EPA to consider cost in determining the NSPS⁸² is direct authority for reducing the percentage reduction requirement in order to aid the development of a cheaper emission control technology.⁸³

76. Ayres & Doniger, *supra* note 21, at 77 n.78.

77. 42 U.S.C. § 7411(j) (Supp. I 1977).

78. *Id.* § 7411(j)(1)(A) (emphasis added).

79. Ayres & Doniger, *supra* note 21, at 77 n.78.

80. See 42 U.S.C. § 7411(j)(1)(A) (Supp. I 1977). Implicitly adopting this interpretation, EPA concluded that "the innovative technology provisions under 111(j) of the Act are not adequate to encourage certain capital-intensive, front-end control technologies." Preamble to 1979 NSPS, *supra* note 19, at 33,591.

81. See text accompanying note 38 *supra*.

82. §111(a), 42 U.S.C. § 7411(a) (Supp. I 1977).

83. Ayres and Doniger incorrectly imply that EPA may not consider cost unless it is "grossly disproportionate to the benefits." Ayres & Doniger, *supra* note 21, at 75-76, citing *National Asphalt Pavement Ass'n v. Train*, 539 F.2d 775, 787 (D.C. Cir. 1976); *Essex Chemical Corp. v. Ruckleshaus*, 486 F.2d 427, 437 (D.C. Cir. 1973); *Portland Cement Ass'n v. Ruckleshaus*, 486 F.2d 375, 387 (D.C. Cir. 1973). The cases cited do not impose such a requirement; they only allow EPA to adopt the "grossly disproportionate" test at its discretion. See, e.g., *Essex Chemical Corp.*, 486 F.2d at 437; *Portland Cement*, 486 F.2d at 387. According to Badger, "[n]othing in the cases precludes EPA from undertaking a more even-handed cost-benefit balancing . . . if it chooses." Badger, *supra* note 15, at 61 n.68.

B. Leniency of the NSPS

In addition to arguing that the nonuniform standard is impermissible under the Act, environmentalists claim that both the percentage reduction requirements and the 1.2 pounds SO₂ per million Btu's emission ceiling are too lenient, constituting actions "in excess of statutory . . . authority."⁸⁴ The Act requires that the standards reflect "the degree of emission limitation and the percentage reduction achievable through application of the best technological system of continuous emission reduction which (taking into consideration the cost of achieving such emission reduction, any nonair quality health and environmental impact and energy requirements) . . . has been adequately demonstrated."⁸⁵ Since significantly greater reduction levels and significantly lower emission ceilings appear to be feasible with existing scrubber technology,⁸⁶ the new NSPS does not require the "best adequately demonstrated technology," in contravention of section 111(a)(1) of the Amendments.

In response, EPA has argued that in setting the standard at a level lower than that technologically and economically feasible it was taking into account, as at least implicitly authorized by the Domenici clause,⁸⁷ the predicted impact of the standard on the coal market.⁸⁸ Although EPA admitted that levels of control higher than ninety percent were feasible,⁸⁹ it claimed that "conservatism in utility perceptions of scrubber performance could create a significant disincentive against the use of [high-sulfur] coals and disrupt the coal markets in [the East, Midwest and portions of Northern Appalachia]."⁹⁰ Whether "conservatism in utility perceptions" is an adequate basis for gauging the impact on

84. Clean Air Act § 305(a), 42 U.S.C. § 7607(d)(9)(C) (Supp. I 1977). See Ayres & Doniger, *supra* note 21, at 72-73.

85. Clean Air Act § 305(a), 42 U.S.C. § 7411(a) (Supp. I 1977).

86. An EPA study under way well before the 1979 NSPS was published indicated that the addition of adipic acid to the flue gas scrubbers yielded performances averaging 95 to 97% reduction consistently over 90 days and reduced the cost of scrubbing by 10%. *Adipic Acid May Be Breakthrough In Scrubbers Sulfur Dioxide Removal*, [1979] 9 ENVIR. REP. (BNA) 1912. California Air Resources Board Chairman Tom Quinn told EPA prior to promulgation of the rule that Pacific Gas and Electric Company had agreed to a standard 10 times as stringent as the 85% standard under discussion in late 1978. *Power Plant NSPS Proposal Too Lax, California Air Official Tells EPA*, [1978] 9 ENVIR. REP. (BNA) 1617, 1618-19.

87. See text accompanying note 38 *supra*.

88. Preamble to 1979 NSPS, *supra* note 19, at 33,596.

89. *Id.* at 33,593.

90. *Id.* EPA projected that an emission ceiling of 1.0 lbs. SO₂ per million Btu's would create a disincentive to burn coals comprising 15% of the total reserve base in Illinois, Indiana, and western Kentucky, and 6% of the coal in Northern Appalachia (concentrated in Ohio and northern West Virginia). Denial of Petitions for Reconsideration, *supra* note 33, at 8,213. The marginal environmental benefit of the 1.0 lbs. ceiling would have been a decrease in emissions by 50,000 tons per year (3.05 million tons vs. 3.1 million tons), which EPA felt did not justify the adverse impact on high-sulfur coal reserves. *Id.* at 8,214.

eastern coal markets is problematic, however—particularly when those utility perceptions are contrary to several reports of favorable scrubber performance submitted during the rulemaking.⁹¹

This “leniency” argument applies with particular force to the choice of seventy percent as the reduction standard necessary to promote development of dry scrubbing. The rationale of the Domenici clause, that a reduced standard for low-sulfur coal may be necessary to foster technological innovation,⁹² is only a limited qualification of the section 111(a)(1) requirement of the “best adequately demonstrated technology”: EPA may reduce the standard for low-sulfur coal only to the level where the technology is competitive, stimulating further development, but no further.

Although EPA claimed that dry scrubbing technology was able to remove up to eighty-five percent of SO₂,⁹³ it chose seventy percent for low-sulfur coals without explanation.⁹⁴ One suggested explanation of this decision is that the seventy percent standard is exactly half way between the ninety percent removal requirement proposed by public interest groups and the fifty percent requirement proposed by utilities.⁹⁵ Thus, if the seventy percent standard is substantially more lenient than is necessary to promote development of dry scrubbing, or if the choice of seventy percent is indeed no more than a political compromise, the standard may be vulnerable to a charge that it is arbitrary and capricious or in excess of statutory authority.⁹⁶

91. See note 86 *supra*; but see Badger, *supra* note 15, at 53 n.35. The real issue, however, may not be whether the utilities will install scrubbers at all, but rather the level of care with which they are operated. Scrubbers in Japan have routinely achieved 98% removal because they are operated with great care by chemists, not engineers, as in the United States. Telephone conversation with Joseph Brecher, attorney for Sierra Club (Feb. 15, 1980). EPA has stated that “the experience with systems in Japan is applicable to U.S. power plants.” Preamble to 1979 NSPS, *supra* note 19, at 33,592.

92. See text accompanying note 75 *supra*.

93. Preamble to 1979 NSPS, *supra* note 19, at 33,594.

94. EPA stated that a 90% standard

would be likely to constrain a full development of [dry scrubbing] technology by limiting potential applicability to high alkaline content, low-sulfur coals. For non-alkaline low-sulfur coals [which comprise approximately one-half of the Nation's low-sulfur coal reserves], the certainty of economically achieving a 90 percent reduction level is markedly reduced.

Preamble to 1979 NSPS, *supra* note 19, at 33,583. The only explanation for the choice of the 70% standard is conclusory: that it makes dry scrubbing “technically feasible and economically attractive.” *Id.* at 33,594.

95. *Sierra Club Asks EPA To Reconsider Coal Fired Utility New Source Standard*, [1979] 10 ENVIR. REP. (BNA) 898. The Sierra Club made this suggestion, calling the compromise “a predictable bureaucratic response to competing pressures.” *Id.*

96. Clean Air Act § 305(a), 42 U.S.C. § 7607(d)(9)(A), (C) (Supp. I 1977). In *Portland Cement Ass'n v. Ruckelshaus*, 486 F.2d 375 (D.C. Cir. 1973), the court, reviewing an NSPS for cement plants, held that “it is our duty to consider whether ‘the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment.’” *Id.* at 402. (citing *Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402, 416 (1971)).

Although the standards adopted are more lenient than environmentalists would have preferred, it is not clear on the evidence available⁹⁷ that EPA's choice of the ninety percent standard was in excess of statutory authority. A stricter standard would result in lower emissions in the long run, while the more lenient standard would reduce short-term emissions, be less costly, and save energy.⁹⁸ Since EPA has been given the statutory authority to weigh these factors in setting the NSPS,⁹⁹ the Agency's decision should be valid.¹⁰⁰ The validity of the seventy percent standard for low-sulfur coal, however, is more problematic: it remains to be seen whether EPA will be able to support its assertion that a reduction requirement as lenient as seventy percent is necessary to make dry scrubbing technologically and economically feasible.¹⁰¹

C. *The Ex Parte Communications*

A third question to be addressed on appeal is whether EPA improperly considered *ex parte* communications after the close of the comment period when formulating the NSPS. The Environmental Defense Fund (EDF) has alleged that EPA was pressured by coal industry representatives and government officials at several meetings after the close of the comment period to reject an NSPS stricter than that which was adopted, in violation of the Act.¹⁰²

EDF argues that the statutory mechanism governing NSPS rulemaking procedures¹⁰³ mandates that there be disclosure of all information submitted both during and after the comment period upon

See also Home Box Office, Inc. v. FCC, 567 F.2d 9, 53 (D.C. Cir. 1977), where the court, considering the validity of FCC rules governing pay television, stated that "we are particularly concerned that the final shaping of [these rules] may have been by compromise among the contending industry forces, rather than by exercise of the independent discretion [of the] individual commissioners."

Since the 70% standard is found in the 1979 NSPS as an exception to the generally applicable 90% standard, overturning the 70% standard would have the effect of establishing a uniform 90% reduction requirement. 40 C.F.R. § 60.43a(a) (1979).

97. It has been alleged that the data supporting EPA's fear of disruption of coal markets was improperly submitted after the public comment period on the proposed rule had closed. See text accompanying notes 102-18 *infra*.

98. See note 48 *supra*.

99. Clean Air Act § 109(c)(1)(A), 42 U.S.C. § 7411(a)(1)(C) (Supp. I 1977).

100. *See* Essex Chemical Corp. v. Ruckelshaus, 486 F.2d 427, 434 (D.C. Cir. 1973) (court limited review of NSPS for sulfuric acid plants and coal-fired power plants to searching the record "to determine if [the administrator's] decisions and reasons therefore are themselves reasoned").

101. See note 68 *supra*.

102. Letter from Robert J. Rauch, Staff Attorney, Environmental Defense Fund, to Douglas M. Costle, Administrator, Environmental Protection Agency (June 29, 1979) at 2 [hereinafter cited as EDF Petition for Reconsideration]. See Denial of Petition for Reconsideration, *supra* note 33, at 8,214.

103. *See* Clean Air Act § 307(d), 42 U.S.C. § 7607(d) (Supp. I 1977).

which EPA might rely in promulgating the rule, as well as an opportunity for rebuttal by interested parties.¹⁰⁴ This follows from a conjunctive reading of subsections 307(d)(5)(A)(iii) and (iv) and section 307(d)(7)(B) of the Act.¹⁰⁵ The latter section permits reconsideration of a rule after the close of the comment period if a party raises an objection "of central relevance to the outcome of the rule," the grounds for which arose after the close of the comment period.¹⁰⁶ Section 307(d)(5)(A)(iv) provides that whenever information is submitted to the Administrator the record must be kept open for thirty days after the submission to provide an opportunity for rebuttal.¹⁰⁷ To ensure full disclosure of the submissions, EPA must keep a transcript of all oral presentations.¹⁰⁸ EDF contends that EPA's consideration of the *ex parte* communications was a reconsideration of the rule and was improper in the absence of reopening the comment period and allowing adversarial debate.¹⁰⁹

In denying EDF's petition, EPA interpreted section 307(d)(5)(A)(iv) as allowing submission of rebuttal and supplementary information for thirty days after the proceeding but not prohibiting consideration of comments submitted at any time.¹¹⁰ EPA further claimed that it fulfilled all the disclosure requirements, and that at any rate "any arguable errors [committed by EPA] were not of central relevance to the outcome of the rule."¹¹¹

EPA's reading of the "opportunity for rebuttal" provision, however, ignores the provisions of section 307(d)(7)(B) for reopening the comment period. Moreover, it disregards the policies enunciated by the District of Columbia Circuit Court of Appeals in two recent cases in which the court invalidated the results of rulemaking proceedings because of improper *ex parte* communications.¹¹² In *Home Box Office, Inc. v. FCC*¹¹³ the court explained that *ex parte* communications are disfavored because they hamper judicial review of the agency's decision, are not subject to criticism that might uncover inaccuracies,¹¹⁴

104. EDF Petition for Reconsideration, *supra* note 102, at 1-4, 11.

105. 42 U.S.C. § 7607(d)(5)(iii), (iv), (7)(B) (Supp. I 1977).

106. *Id.* § 7607(d)(7)(B).

107. *Id.* § 7607(d)(5)(iv).

108. *Id.* § 7607(d)(5)(iii).

109. EDF Petition for Reconsideration, *supra* note 102, at 1-2.

110. Denial of Petition for Reconsideration, *supra* note 33, at 8,214.

111. *Id.*

112. *United States Lines v. Federal Maritime Comm'n*, 584 F.2d 519 (D.C. Cir. 1978); *Home Box Office, Inc. v. FCC*, 567 F.2d 9 (D.C. Cir. 1977). *Cf.* *Action for Children's Television v. FCC*, 564 F.2d 458 (D.C. Cir. 1977) (limiting the prohibition or required disclosure of *ex parte* contracts during or after the public comment period to rulemaking proceedings involving "competing claims to valuable privilege").

113. 567 F.2d 9 (D.C. Cir. 1977).

and violate basic considerations of fairness in the administrative process.¹¹⁵

As evidence that the NSPS was based on off-the-record information obtained in meetings after the close of the comment period, EDF cites three incidents. First, the preamble to the NSPS states that the Administrator revised his assessment of coal cleaning technology after a meeting with National Coal Association (NCA) representatives that took place after the close of the comment period.¹¹⁶ Second, the Administrator is quoted in an internal EPA memorandum as assuring NCA representatives that "their material would be fully considered".¹¹⁷ Finally, the ceiling EPA ultimately adopted—1.2 pounds SO₂ per million Btu's—is identical to that promoted by NCA.¹¹⁸

It remains to be seen, of course, how the court will deal with these claims. Even if EDF succeeds in reopening the comment period, given the latitude afforded EPA by the Act to weigh the competing factors in formulating the NSPS¹¹⁹ and the predictable predisposition to reaffirm its prior decision, the ultimate substantive effect of EDF's challenge may be negligible.

CONCLUSION

In spite of the mandate of the Clean Air Act to consider cost and the impact of the use of local coal when setting the NSPS, EPA was not forced to compromise the primary purpose of the Act—minimizing emissions from fossil-fuel-fired plants. Although the adopted standard requires less reduction in emissions from new plants than is technically feasible, total emissions are minimized because the incentive to "stretch out" existing, dirty plants is reduced. Until stricter emissions limits are imposed on existing plants, reducing the incentive to "stretch out" their use, the NSPS will serve as an example of environmental regulation for which "less is more."

David W. Hercher

114. *Id.* at 36.

115. *Id.* at 56; EDF Petition for Reconsideration, *supra* note 102, at 4.

116. EDF Petition for Reconsideration, *supra* note 102, at 5; Preamble to 1979 NSPS, *supra* note 19, at 33,596.

117. EDF Petition for Reconsideration, *supra* note 102, at 5.

118. *Id.*

119. *See* Clean Air Act § 111(a), 42 U.S.C. § 7411(a) (Supp. I 1977).