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LEGISLATIVE NOTE

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INTRODUCTION

Attention to environmental problems continues to increase. "Conserve!!" "Recycle!!" and "Don't Pollute!!" are among the environmental battle cries of people around the world. In response to this and a swell of related concerns over problems of acid rain, global warming and poisoning of the air, in 1990 the United States Congress passed amendments to the Clean Air Act (Act),[1] a federal regulatory statute first enacted during the environmental decade of the 1970's.

This note will begin by giving a brief overview of the earlier provisions of the Clean Air Act. The focus will then turn to the key provisions of these expensive and complex amendments, as well as touch on their history.

I. THE CLEAN AIR ACT PRIOR TO THE 1990 AMENDMENTS

Each state has primary responsibility for assuring the air quality within its borders meets a minimum standard. This is accomplished by submitting a state implementation plan (SIP) to the Administrator of the Environmental Protection Agency (the Administrator).[2] Each state's SIP must specify the manner in which primary and secondary national ambient air quality standards (NAAQSs) will be achieved and maintained.[3] The Administrator is required to establish primary NAAQSs to protect the public health,[4] and secondary NAAQSs to protect the public welfare.[5]

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1. Clean Air Act §§ 101-403, 42 U.S.C. §§ 7401-7642 (1989).
2. Clean Air Act, § 110(a)(1).
3. *Id.*
4. *Id.* § 109(b)(1).

SIPs are to provide implementation strategies so that areas which had yet to attain NAAQS could achieve compliance by the end of 1982.[6]

Large areas of the nation already enjoy cleaner air than required by the ambient standards. In order to maintain these clean air areas, Congress amended the Act in 1977 to include the prevention of significant deterioration (PSD) program. The statute allows limited increases,[7] but in no event can the allowable concentrations of any pollutant exceed the NAAQSs.[8] An Air Quality Control Region[9] can be a PSD area for one or more pollutants even though it is a non-attainment area for other pollutants. No part of the country is non-attainment for all pollutants.[10]

Sections 110(a)(2)(E) and 126 of the Act address the problem of interstate transport of air pollutants. Section 110(a)(2)(E) requires that each SIP contain provisions prohibiting any stationary source from emitting pollutants in amounts which will prevent attainment or maintenance of any NAAQS by another state[11] or interfere with another state's PSD program.[12]

The Act requires that the Administrator prescribe "standards applicable to the emission of any air pollutant" from new motor vehicles that "may reasonably be anticipated to endanger public health or welfare."[13] Certain requirements are specified in the statute for the promulgation of regulations for carbon monoxide, hydrocarbons, and nitrogen.[14]

The Administrator must also promulgate regulations establishing federal performance standards for new stationary sources of pollution.[15] The Act also requires stringent national emissions standards for hazardous air pollutants (NESHAPs)[16] for each substance that exposed an individual to a risk of death or serious bodily harm.[17] NESHAPs were designed to provide "an ample margin of

5. Clean Air Act § 109(b)(2) (1989).
6. *Id.* § 172(a)(1).
7. *Id.* § 163(b).
8. *Id.* § 136(b)(1)(4).
9. AQCRs are designated as such by each state for purposes of efficient and effective air quality management. *Id.* § 107.
10. Craig N. Oren, *Prevention of Significant Deterioration: Control-Compelling v. Site-Shifting*, 74 IOWA L. REV. 17 (1988).
11. Clean Air Act § 110(a)(2)(E)(i)(I) (1989).
12. *Id.* § 110(a)(2)(E)(i)(II).
13. *Id.* § 202(a)(1).
14. *Id.* § 202(b).
15. *Id.* § 111(b).
16. Clean Air Act § 112(b) (1989).
17. *Id.* § 112(a)(1).

safety" to protect the public health.[18] Each state may develop its own procedure for implementing and enforcing NESHAPs. The Administrator may delegate his authority to that state upon finding that a state's procedure is adequate.[19]

This note will now discuss the new amendments added to the Clean Air Act which target previously unaddressed air quality problems.

II. 1990 AMENDMENTS TO THE CLEAN AIR ACT

A. *Legislative History*

Legislative history for the Clean Air Act is limited. Senate Bill 1630 was passed 89-11 on April 3, 1990,[20] after the defeating of a controversial amendment addressing the local economic impacts of tougher pollution controls affecting the coal industry.[21] The House overwhelmingly (401-21) passed its clean air legislation (H.R. 3030) on May 23, 1990. The House bill included an employment transition assistance amendment similar to that defeated by the Senate.[22] The House amendment was ultimately included in the legislation signed by the President.[23]

Although the Clean Air Act amendments were passed hastily following a great deal of lobbying and deal making, the bill that emerged is surprisingly strong. The amendments emerged in the rush after Congress' original recess date and before Congress had voted on a new budget. However, Congress gave very explicit instructions to the Administrator and the EPA in the amendments. Most sections mandate that the Administrator promulgate regulations to limit or eliminate production of specific chemicals within a specific period of time. Discretion is left only to the agency in determining what technologies to use to meet these requirements.

B. *Targeted Environmental Hazards*

1. Acid Rain

One environmental hazard the Clean Air Act amendments address is "acid rain," which is caused by sulfur and nitrogen oxide emissions. In the atmosphere, these emissions react with water va-

18. *Id.* § 112(b)(1)(B).
19. *Id.* § 111(c)(1); § 112(d)(1).
20. In the Congress, Overview, 20 Envtl. L. Rep. (Envtl. L. Inst.) 10189 (May 1990).
21. *Id.*
22. In the Congress, Overview, 20 Envtl. L. Rep. (Envtl. L. Inst.) 10309 (July 1990).
23. *See* Job Training Partnership Act, 29 U.S.C. § 1726 (1991); *see* discussion *infra* text accompanying notes 42-45.

por and form sulfuric and nitric acid. This acid may return to the earth in rain or snow.[24] Over two-thirds of the acid produced is the result of coal combustion in power plants and smelter processes,[25] most of which are found in the Midwest region of the United States. Vehicular pollution also contributes to the problem.[26]

a. Reduction of Sulfur Dioxide Emissions

These new amendments, both original House and Senate bills,[27] specifically target the Midwest and Appalachian power plants. These utilities, which use high-sulfur coal without costly scrubbing controls, are found in only 21 states.[28]

The new amendments provide the utility companies with incentives to buy pollution control technologies. The purchase of these technologies would be partly funded through credits received per ton of pollutants reduced below established limits.[29] These credits could then be sold to other utilities.[30] Although this process would allow some utilities to pollute in excess of established limits, it would theoretically produce the same overall reduction. The program allots bonus pollution credits to dirty utilities that introduce scrubbing technology.[31] These bonus credits will also be given to power plants in high-growth and exceptionally low-polluting states, in addition to the severely affected Midwest.[32]

There are two phases to the amendment's reduction plan. The first phase requires 111 of the dirtiest power plants[33] to achieve a 90 percent reduction in sulfur dioxide emissions by 1995.[34] A two-year extension may be given for plants that commit to buying costly scrubbing devices. Such devices allow continued use of high-sulfur

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24. DONALD A. MCQUARRIE & PETER A. ROCK, GENERAL CHEMISTRY 321-22 (1984).

25. FREDERICK R. ANDERSON, ET. AL., ENVIRONMENTAL PROTECTION: LAW AND POLICY 312 (1990).

26. DONALD A. MCQUARRIE & PETER A. ROCK, GENERAL CHEMISTRY 321-22 (1984).

27. In the Congress, Overview, 20 Envtl. L. Rep. (Envtl. L. Inst.) 10309 (July 1990).

28. Clean Air Act § 404, Table A, 42 U.S.C § 7643, Table A (1991).

29. Clean Air Act, § 404(f)(2).

30. *Id.* § 404(f)(2)(b).

31. Passing the exhaust gases through an expensive device called a scrubber can eliminate most of the sulfur dioxide. In a scrubber, a spray of an aquacious suspension of calcium oxide (or lime) reacts chemically to remove the sulfur dioxide from the effluent gas. DONALD A. MCQUARRIE & PETER A. ROCK, GENERAL CHEMISTRY 323 (1984).

32. *The Changing Clean-Air Law*, THE WALL ST. J., Oct. 29, 1990, at A6.

33. Clean Air Act § 404, Table A (1991).

34. *Id.* § 404(a)(2), (19).

coal.[35]

Phase two of the bill would require more than 200 additional electric utilities to reduce their emissions of sulfur dioxide gases by 10 million tons annually.[36] By the year 2000, these emissions will be nationally capped to 1980 emission levels.[37] The 1980 cap is approximately half of current levels.[38] The deadline is extended until December 31, 2003 for plants that use new clean-coal technology.[39]

b. Reduction of Nitrogen Oxides

Nitrogen oxides are also produced by stationary utilities. The amendments require reduction of nitrogen oxides by 33%, to four million tons annually in these coal burning utilities. This reduction is to occur no later than eighteen months after enactment, provided it is technologically achievable.[40] Regardless of available technology, a cut in nitrogen oxide emissions by two million tons a year, or about 25%, must be phased in beginning in 1995.[41]

c. Job Training Partnership Act

This controversial amendment sets aside up to 250 million dollars for unemployment and retraining benefits. The benefits are available to coal miners and other displaced workers who can show that the new law contributed to their job loss. Those put out of work can qualify for extra weeks of unemployment pay,[42] job search allowances,[43] and relocation allowances[44] under the five-year job assistance package.[45]

2. Mobile Sources & Smog

Automobile emissions have two primary effects on our air: the production of acid rain and tropospheric ozone. As with the power plant emissions, the oxidation of the nitrogen oxides from automobile exhaust contributes to the acid precipitation problem. However, nitrogen oxides can also combine with oxygen in the air in a

35. *Id.* § 404(d)(1).
36. *Id.*
37. *Id.* § 405(a)(1).
38. In the Congress, Overview, 20 Envtl. L. Rep. (Envtl. L. Inst.) 10189 (May 1990).
39. Clean Air Act, § 409(a), (b)(1) (1991).
40. Clean Air Act § 407(b)(1) (1991).
41. *Id.* § 407(b)(1) (1991).
42. Job Training Partnership Act § 326(f), 29 U.S.C. § 1726(f) (1991).
43. Job Training Partnership Act, § 326(e)(1).
44. *Id.* § 326(e)(2).
45. *Id.* § 326(a).

reaction catalyzed by sunlight to form ozone, O_3.[46] The presence of ozone in the troposphere traps pollutants, resulting in smog.

Ninety-six areas missed the previous deadline for meeting NAAQSs for ozone.[47] The new goal stipulates that all but nine areas comply by November 1999. The worst area, Los Angeles, must comply by November 2010.[48] Areas that are "moderately" polluted or worse[49] must cut smog by 15% within six years to meet their November 1996 deadline requirement.[50] After that deadline, areas that are "seriously" polluted or worse must make annual improvements of at least 3% until they meet the standards.[51]

Despite continual extensions the industry has received from the Administrator and Congress under the former law,[52] the controls have nonetheless resulted in new-car exhaust that is 96% cleaner than pre-1970 cars.[53] It is evident from the amendments that Congress wants to continue the improvement.

New tailpipe emission limits must be met for 40% of 1994 prototype vehicles, which will be available for purchase by 1996. All vehicles must meet these emission limits for any model year after 1995.[54] The amendment allows the EPA to decide whether to impose a second, even stricter round of tailpipe limits[55] on the basis of necessity and economic soundness.[56] These limits would impact automobile pollution by requiring passenger cars to emit 60% less nitrogen oxide and 40% less hydrocarbon waste by 2003.[57]

The tailpipe emission limits provision won out over the Senate version in the Conference committee. The Senate version was similar but required automatic further reductions if certain cities did not clean up their air quickly enough.[58] If these seriously polluted cities

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46. DONALD A. MCQUARRIE & PETER A. ROCK, GENERAL CHEMISTRY 323-24 (1984).

47. *The Changing Clean-Air Law,* THE WALL ST. J., Oct. 29, 1990, at A6.

48. Clean Air Act § 181(a)(1) (1991).

49. The San Francisco-Oakland-San Jose area falls into this moderately polluted category. *The Changing Clean-Air Law,* THE WALL ST. J., Oct. 29, 1990, at A6.

50. Clean Air Act § 182(b)(1)(A)(i) (1991).

51. The annual improvements will be averaged over three year periods. *Id.* § 182 (c)(2)(B).

52. Clean Air Act § 202(b) (1989).

53. *The Changing Clean-Air Law,* THE WALL ST. J., Oct. 29, 1990, at A6.

54. Clean Air Act § 202(g)(1) (1991).

55. *Id.* § 202(i).

56. *Id.* § 202(i)(2)(A).

57. Michael D. Lemonick, *Forecast: Clearer Skies,* TIME, Nov. 5, 1990, at 33.

58. The Senate bill would have actually imposed more cutbacks if 12 of 27 nonattainment cities were not in compliance by 2000. In the Congress, Overview, 20 Envtl. L. Rep. (Envtl. L. Inst.) 10189 (May 1990).

remained nonattainment for health standards the Senate bill would have compelled an additional 50% cut, required in model year 2003 cars.[59]

Included in the amendments is a provision that auto pollution control devices must last longer than now required. Tailpipe standards must now be maintained for ten years or 100,000 miles,[60] as opposed to the current standards of five years or 50,000 miles.[61] Additionally, warranties must last eight years or 80,000 miles for catalytic converters and electronic diagnostic equipment.[62] All other pollution gear must last at least two years or 24,000 miles.[63] This is contrasted with the five-year or 50,000 mile warranty on all pollution equipment under existing law.[64] Furthermore, gauges will be required on cars to alert drivers to any problems with pollution-control equipment.[65]

Additionally, the amendment requires the sale of cleaner burning, reformulated gasoline in the nine smoggiest cities[66] by 1995.[67] This gasoline would cut emissions of hydrocarbons and toxic pollutants by 15%.[68] By 2000, the reductions must equal 25%. However, the reductions may be decreased to 20% depending on technological feasibility.[69]

In the two-dozen smoggiest cities, fleets of 10 or more cars[70] must run 70% more cleanly than today's automobiles.[71] "Fleets" consist of federal car fleets[72] and private firm vehicles, such as cabs and Federal Express. These reductions start with 1998 models.

Trucks must run 50% cleaner.[73] Nevertheless, the requirements could be delayed if "clean" vehicles are not yet available. In such a case only a 30% cleaner truck would be required.[74] Tighter

59. In the Congress, Overview, 20 Envtl. L. Rep. (Envtl. L. Inst.) 10190 (May 1990).
60. Clean Air Act § 202(g)(1) (1991).
61. *The Changing Clean-Air Law*, THE WALL ST. J., Oct. 29, 1990, at A6.
62. Clean Air Act § 209(i)(2) (1991).
63. *Id.* § 209(i)(1).
64. *The Changing Clean-Air Law*, THE WALL ST. J., Oct. 29, 1990, at A6.
65. Clean Air Act § 202(m) (1991).
66. Two of which are in Southern California: Los Angeles and San Diego. Michael D. Lemonick, *Forecast: Clearer Skies*, TIME, Nov. 5, 1990, at 33.
67. Michael D. Lemonick, *Forecast: Clearer Skies*, TIME, Nov. 5, 1990, at 33; *The Changing Clean-Air Law*, THE WALL ST. J., Oct. 29, 1990, at A6.
68. Clean Air Act § 211(k)(3)(B) (1991).
69. *Id.* § 211(k)(3)(B) (1991).
70. *Id.* § 241(5), (6).
71. *Id.* § 246(b) (1991).
72. *Id.* § 248.
73. Clean Air Act § 245(a) (1991).
74. *Id.* § 245(b).

bus pollution limits will also go into effect.[75]

The amendments also include a pilot program in Southern California that could eventually be expanded.[76] Automobile manufacturers will have to build at least 150,000 cars and light trucks annually that operate on alternative fuels such as electricity, natural gas or methanol.[77] An additional 150,000 vehicles must be built annually for model years 1999 and thereafter.[78] This requirement will leave one million vehicles using cleaner fuel or equipped with special emission-reducing tailpipes available in California by 2000.[79]

Special nozzles on gasoline pumps to reduce fumes during refueling are now required on gasoline pumps in 60 smoggy areas.[80] In addition, fume-catching cannisters are being phased-in on all new cars, starting in the mid-1990's.[81]

3. Toxic Emissions

a. Stationary Sources

Only seven chemicals under the NESHAPs provision of the Clean Air Act,[82] have been regulated by the EPA since 1970.[83] Under the new amendments, regulations must be promulgated over the next ten years[84] for 189 toxic and cancer-causing chemicals.[85] These regulations will require polluting plants to use the best technology available to make 90% reductions in emissions.[86] Notwithstanding this ambitious goal, there are exceptions.

As long as they take interim steps to reduce cancer-causing emissions from their coke ovens, steelmakers are given until 2020 to eliminate that pollution.[87] Electric utilities, many of them affected by the new acid rain rules, managed to fight off a proposal which would have required them to reduce their release of mercury and other toxic chemicals from coal-burning plants.[88]

For emissions that remain carcinogenic, the bill requires the

75. *Id.* § 219 (1991).
76. *Id.* § 249.
77. *Id.* § 241(2) (1991).
78. Clean Air Act § 249(c)(1) (1991).
79. Michael D. Lemonick, *Forecast: Clearer Skies*, TIME, Nov. 5, 1990, at 33.
80. Clean Air Act § 182(b)(3)(A) (1991).
81. *Id.* § 202(a)(6).
82. Clean Air Act § 112(b) (1989).
83. *The Changing Clean-Air Law*, THE WALL ST. J., Oct. 29, 1990, at A6.
84. Clean Air Act § 112(e) (1991).
85. *Id.* § 112(b)(1).
86. *The Changing Clean-Air Law*, THE WALL ST. J., Oct. 29, 1990, at A6.
87. Clean Air Act § 112(i)(8)(F) (1991).
88. Michael D. Lemonick, *Forecast: Clearer Skies*, TIME, Nov. 5, 1990, at 33.

EPA to establish a residual risk standard to be implemented. Such a standard is meant to produce ample margins of safety by limiting the risk of cancer by any substance to no greater than about one in 10,000[89] for people living near factories.[90]

b. Nuclear Power Plants

The new NESHAPs provision also includes an amendment that allows states and the EPA to regulate radioactive air pollutants at facilities licensed by the Nuclear Regulatory Commission (NRC).[91] Prior to this amendment the NRC was the sole regulator.

c. Mobile Sources

Reduction of toxic emissions from cars or fuel is required by the amendments. However, an EPA study must first be done to determine how to obtain a decrease.[92] Benzene and formaldehyde from gasoline must also be controlled.[93]

4. Ozone Depletion

Ozone in the stratoshperic layer of the earth's atmosphere absorbs incoming ultraviolet radiation from the sun. Without this protective ozone filter, the radiation would cause harm to life forms on earth. Its reduction can cause an increase in the number of human skin cancers and harm to the eyes, as well as unforeseen biological effects.

Hydrochlorofluorocarbon (HCFC)[94] and chlorofluorocarbon (CFC)[95] releases have been identified as the agents that break down the stratospheric ozone layer. HCFCs and CFCs release molecules that strip away the third oxygen atom in ozone, which is extremely unstable, converting it from O_3 (ozone) to O_2 (oxygen).[96] The revised law will eliminate these chemicals that threaten the atmosphere's protective ozone layer.[97] CFCs and most other ozone destroying chemicals will be phased out by 2000.[98] The proposal

89. *The Changing Clean-Air Law*, THE WALL ST. J., Oct 29, 1990, at A6.
90. Clean Air Act § 112(f) (1991).
91. *Id.* § 112(f)(9).
92. *Id.* § 202(l).
93. *Id.* § 112(b)(1).
94. *Id.* § 602(b).
95. Clean Air Act § 602(a) (1991).
96. DONALD A. MCQUARRIE & PETER A. ROCK, GENERAL CHEMISTRY 324-27 (1984).
97. Clean Air Act § 604, 605 (1991).
98. *Id.* § 604(b).

would also ban the use of HCFCs by 2030.[99]

These amendments bring United States legislation into conformity with recent provisions in the Montreal Protocol.[100] The Protocol is an international United Nations effort aimed at reducing the consumption of CFCs and HCFCs.[101]

CONCLUSION

The Clean Air Act amendments will affect industry by imposing costly controls and ever-changing regulations. However, the economic impact is arguably outweighed by the positive effects of the law and forthcoming regulations. Environmentalists believe the cost of inaction by Congress would be higher than the amount American industry may have to pay to comply with the amendments. The sum could total 50 billion dollars more per year,[102] although it remains unclear exactly how to quantify the costs of forests ruined by acid rain or the human suffering caused by pollution-related lung diseases and birth defects.

In passing the new amendments to the Clean Air Act, Congress decided that the cost to industry is a subordinate factor. Politicians found their political determination when it came to their constituents' health, even as they incessantly dodged difficult decisions on the nation's financial well-being. This reality emphasizes how hazardous America's polluted air has become.

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99. *Id.* § 605(b)(2).

100. *Id.* § 614(b).

101. *Id.* § 601(9); Montreal Protocol on Substances that Deplete the Ozone Layer, *opened for signature* Sept. 16, 1987, 52 Fed. Reg. 239, 46,515 (1987).

102. Michael D. Lemonick, *Forecast: Clearer Skies,* TIME, Nov. 5, 1990, at 33.