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## AIR POLLUTION: CAUSES, EFFECTS, AND CONTROL

GUY G. HURLBUTT\*

### I. INTRODUCTION

As civilization expanded and technology progressed, the problems of air pollution have multiplied. History is replete with examples of man's concern with, and attempts to control, impurities in the air. As early as 1306, King Edward I of England, in response to a petition from the citizens of London, issued a royal proclamation prohibiting artificers from using sea coal, as distinguished from charcoal, as fuel for their furnaces. Penalty for violation of the proclamation was death.<sup>1</sup> The blossoming industrial technology of the nineteenth century produced an alarming increase in the incidence of air pollution. Concern for impurities in the atmosphere was particularly expressed by those in and around the cities where industry was concentrated. Charles Dickens provided a graphic illustration of the effect of air pollutants on a typical nineteenth century industrial city:

It [Coketown] was a town of red brick, or of brick that would have been red if the smoke and ashes had allowed it; but as matters stood it was a town of unnatural red and black like the painted face of a savage. It was a town of machinery and tall chimneys, out of which interminable serpents of smoke trailed themselves forever and ever, and never got uncoiled.<sup>2</sup>

By the middle of the twentieth century, man realized that air pollution was reaching alarming levels. It became obvious that more than poor visibility or minor inconvenience to city dwellers was at stake. The need for effective control of air pollution was apparent.<sup>3</sup> The focus of this article is the response of the twentieth century to that need.

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1. See E. PRENTICE, *POLICE POWERS* 35 (1894).

2. 1 C. DICKENS, *HARD TIMES* 34 (1863).

3. Most Americans view air pollution as the most important of all environmental problems facing the nation today. See *TIME*, Feb. 2, 1970, at 56-63.

The emphasis on the control of air pollution varies from one section of the country to another. In some areas, such as Los Angeles, the problem has already become critical; in other areas, such as South Carolina, the air is relatively pollution free. What must be recognized, however, is the threat that the technological age holds for any jurisdiction unwilling to consider effective controls. A necessary corollary to any attempt to control effectively air pollution is an understanding of the nature and extent of the problem. Air pollution, of course, is more than visible smoke. The term encompasses all impurities—whether solid, liquid or gas—found in the air that may prove harmful or inconvenient to man and his surroundings. Air pollutants may be broadly categorized in terms of their physical forms. Such general categories include:

- (1) *aerosol*—a solid or liquid of microscopic size in a gas.
- (2) *dust*—solid particles suspended in air.
- (3) *droplets*—small liquid particles.
- (4) *fly ash*—fine particles of ash found in the gas arising from combustion.
- (5) *fume*—solid particles formed by condensation from a gaseous state.
- (6) *gas*—matter having no definite shape or volume.
- (7) *mist*—liquid particles of large size.
- (8) *particles*—a small mass of solid or liquid.
- (9) *smoke*—finely divided aerosol particles.
- (10) *soot*—particles of carbon impregnated with tar.
- (11) *vapor*—the gaseous phase of liquids or solids.<sup>4</sup>

Each of these broad categories may be further classified by reference to their chemical compositions. Classifications based on this latter scheme include: (1) particulate matter, (2) carbon monoxide, (3) sulfur oxides, (4) hydrocarbons and (5) nitrogen oxides.<sup>5</sup> These pollutants, alone or in combination, cause serious harmful effects that are only beginning to be fully understood.

With respect to man's health and physical well-being, air pollution may increase the likelihood of chronic diseases such as emphysema, bronchitis and other respiratory ailments.<sup>6</sup> Asthma

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4. I A. REITZ, ENVIRONMENTAL LAW three-9 (1971) [hereinafter cited as ENVIRONMENTAL LAW].

5. COUNCIL ON ENVIRONMENTAL QUALITY, FIRST ANNUAL REPORT, ENVIRONMENTAL QUALITY 63-65 (1970) [hereinafter cited as FIRST ANNUAL REPORT].

6. *Id.* at 67. Moreover, it appears that health problems associated with air pollution fall most heavily on the poor, the old and the infirm. See generally Grodine, *A Special*

outbreaks and air pollution levels are clearly linked.<sup>7</sup> Lung cancer deaths in the large metropolitan areas are double those in the rural areas.<sup>8</sup> Air pollution is also suspect as a contributing factor in heart disease and eye irritation.<sup>9</sup> Preliminary investigations indicate a relationship to fertility, newborn survival, premature aging and psychological damage.<sup>10</sup>

Apart from man's physical well-being, man's environment may be adversely affected by the air's impurities. Severe damage to plant life can result from concentrations of certain pollutants—particularly fluorides, sulfur oxides and ozone. For example, in Florida, fluorides and sulfur oxides, released into the air by phosphate fertilizer processing, have blighted large numbers of pine trees and citrus orchards.<sup>11</sup> Furthermore, sulfur oxides have been linked to the injury in plants described as "early aging."<sup>12</sup> Ozone, a photochemical oxidant, can prove to be especially harmful. Produced by the combination of other pollutants emitted into the air by man-made sources such as the automobile, ozone poses a serious threat to leafy vegetables, field and forage crops, fruit and forest trees, and shrubs.<sup>13</sup>

The deleterious effects of air pollution on inanimate objects has been equally alarming. For example, steel and steel structures corrode two to four times faster in areas of high sulfur oxide concentrations.<sup>14</sup> As a result, buildings and statues are being slowly eaten away by pollutants. In Europe, for example, statues and other works of art which have stood for centuries are being moved inside enclosures to protect them from corrosion. It has been said that the Lincoln Memorial in Washington, D.C., "fizzes" when it rains due to the concentration of sulfur dioxides in the drops of water. Particulate matter in the air has necessitated such common inconveniences as additional washing of clothes and cars and more frequent painting of houses and cleaning of buildings. Ozone, for example, has damaged textiles, dis-

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*Burden*, ENVIRONMENT, March 1971, at 22.

7. ENVIRONMENTAL LAW at three-2.

8. *Id.*

9. *Id.*

10. See generally FIRST ANNUAL REPORT at 67-70. See also ENVIRONMENTAL LAW at three-2.

11. FIRST ANNUAL REPORT at 70.

12. *Id.*

13. ENVIRONMENTAL LAW at three-3.

14. *Id.* One-third of the replacement costs of steel rails in England is attributable to sulfur pollution; see FIRST ANNUAL REPORT at 71.

colored dyes and accelerated the cracking of rubber.<sup>15</sup> Air pollution may also reduce visibility and increase the incidence of automobile and aircraft accidents.<sup>16</sup> There has even been speculation that large scale changes in global climate may result from an imbalance generated by air pollutants.<sup>17</sup>

Even a cursory review of the harmful effects of air pollution clearly demonstrates that man and the powerful technology he has created are on a collision course. Large scale study of the potential adverse effects of air pollution has only begun; many of the harmful effects of our technological age have yet to be revealed.<sup>18</sup> Increased research, heightened public awareness and strict controls should be society's immediate goals in reducing air pollution. Man's ability to understand and cope with the problems of pollution depends primarily upon *science* for technical information and invention and upon the *legal system* for implementation and control. Scientific knowledge and legal implementation procedures must be coupled with a sincere desire on the part of the public and industry to cooperate in achieving the ultimate goal of clean air. The burden which the attainment of this end places on our slowly grinding legal machinery presents an awesome but invigorating challenge. This article will explore the attempts of the legal system to control air pollution at both the national and local levels. Particular emphasis will be placed on the role of the Clean Air Act of 1967 as amended in 1970,<sup>19</sup> and on the South Carolina Pollution Control Act.<sup>20</sup> Moreover, supplementary remedies, including those generally available to individual citizens under existing statutory law, will also be considered.

## II. AIR POLLUTION CONTROLS

### A. *Early Attempts*

The first efforts to control air pollution in the United States

15. FIRST ANNUAL REPORT at 71.

16. *Id.*

17. SECRETARY OF HEALTH, EDUCATION AND WELFARE, REPORT TO THE CONGRESS ON THE NATURE AND CONTROL OF AIRCRAFT ENGINE EXHAUST EMISSIONS 3 (1968). See generally FIRST ANNUAL REPORT 93-104.

18. For a more detailed account of the effects of air pollution see B. WARD, MAN AND HIS ENVIRONMENT (1970); 3 H. STERN, AIR POLLUTION (2d ed., 1968); R. LEWIS, WITH EVERY BREATH YOU TAKE (1965).

19. Clean Air Amendments of 1970, Pub. L. No. 91-604, 84 Stat. 1676, amending 42 U.S.C. §§ 1857-571 (Supp. III, 1968) (codified at 42 U.S.C. §§ 1857-571 (1970)) [hereinafter cited as Clean Air Amendments of 1970, Pub. L. No. 91-604, 84 Stat. 1676].

20. S.C. CODE ANN. §§ 63-195 to 63-195.36 (Supp. 1971).

came through "smoke laws" passed during the latter part of the nineteenth century. Chicago and Cincinnati passed smoke control ordinances in 1881. By 1912, similar ordinances were in effect in twenty-three of the twenty-eight cities having a population in excess of 200,000.<sup>21</sup> Smoke pollution ordinances proved to be of limited value since most of the harmful pollutants were invisible and could not be classified as "smoke." Despite this fact, many cities have retained such laws. The sophistication of each city's ordinance has borne a direct relationship to its size. In the decades of the thirties, forties and fifties, increases in the level of air pollution, and the resulting public awareness, stimulated new and more effective legislation.

Aside from local smoke pollution laws, early attempts to control air pollution were based on common law theories of nuisance—public and private. Many courts, however, were initially reluctant to grant injunctions in cases where large or powerful industrial concerns were involved. Often the plaintiff was forced to accept inadequate monetary damages, or when less fortunate, dismissal of his complaint.<sup>22</sup> In the early part of the twentieth century, two United States Supreme Court decisions signaled a new approach for greater control of air pollution through court action and legislation. *Northwestern Laundry v. Des Moines*<sup>23</sup> left little doubt that a state or municipality could declare the emission of dense smoke a nuisance and thus subject to regulatory control. *Hadacheck v. Sebastian*<sup>24</sup> validated a city's broad police power to control air pollution through property use regulation. In *Hadacheck*, a Los Angeles city ordinance was challenged which made it unlawful for any person to establish or operate a brickyard within the city limits. The Court, in upholding the validity of the ordinance, noted that even absolute prohibitions on property use could be justified if the effect of that use was detrimental to "the health and comfort of the community."<sup>25</sup> Although the common law theories of public and private nuisance and municipal pollution abatement ordinances remain viable means of controlling pollution, federal and state statutes have superseded

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21. Middleton, *Air Pollution Control: New Goals in the Law*, 59 Ky. L.J. 644, 647 (1971).

22. See 39 AM. JUR. *Nuisances* §§ 54-59 (1942).

23. 239 U.S. 486 (1916).

24. 239 U.S. 394 (1915).

25. *Id.* at 411.

purely local regulatory attempts and are now the primary means of regulation.

## B. Federal Control

### 1. In General

By the beginning of the 1960's, the air pollution problem was of such magnitude that local ordinances and nuisance actions were simply inadequate to provide any meaningful control in many parts of the country. Despite considerable congressional bickering, public clamor led to the passage of the Clean Air Act of 1963.<sup>26</sup> Previous federal legislation in the area<sup>27</sup> had provided only for research and technical assistance and had been largely ignored. The 1963 Act provided for air pollution abatement conferences designed to encourage cooperative efforts on the part of municipal, state, and interstate air pollution control agencies to enforce air quality standards. The Act created, however, a cumbersome and time-consuming process. "Interested parties" were permitted to attend the conference and to present their views. As a result, the Act's machinery worked to the advantage of the violator since an action could be prolonged indefinitely by a determined polluter.<sup>28</sup> To date, only one case—*United States v. Bishop Processing Co.*<sup>29</sup>—has been carried to its ultimate completion under the procedure established by the 1963 Act. The polluter in *Bishop* was a small manufacturer of chicken and animal by-products in Bishop, Maryland. The stench from the plant proved unbearable to the residents of Bishop and the nearby town of Selbyville, Delaware. Futile attempts to negotiate were made as early as 1959. These efforts eventually culminated in 1965 with the calling of a conference of air pollution control agencies as envisioned by the 1963 Act. A public hearing, held in 1967 pursuant to the Act, ultimately led to the filing of a suit for injunctive relief by the federal government in the district court in 1968.<sup>30</sup> Hearings were subsequently held on motions and in 1969, a decree was entered by the court ordering the polluter to cease its opera-

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26. 42 U.S.C. §§ 1857 (1964) (originally enacted as Clean Air Act, ch. 15B, 77 Stat. 392 (Dec. 17, 1963)).

27. Act of July 15, 1955, ch. 360, 69 Stat. 322.

28. For a detailed explanation of the conference technique utilized by the 1963 Act see Comment, *Air Pollution in the Marietta-Parkersburg Area—A Case History*, 32 OHIO S.L.J. 58 (1971).

29. 423 F.2d 469 (4th Cir. 1969), cert. denied, 398 U.S. 904 (1970).

30. *United States v. Bishop Processing Co.*, 287 F. Supp. 624 (D. Md. 1968).

tions. The district court's order was affirmed by the court of appeals in March 1970,<sup>31</sup> but that order was stayed pending appeal to the United States Supreme Court. After this exhausting litigation, the polluter was finally ordered to cease permanently its operations in 1970. As a discouraging postscript, the *Washington Post* reported that on July 29, 1971, the Bishop plant was still in operation, having avoided the final court order by the maneuver of changing its operation from the rendering of chickens to the blending of fats.<sup>32</sup> *Bishop* conclusively illustrated the futility of the conference method which served as the basis of the 1963 Act and served to underscore the need for a more streamlined, workable legislative scheme.

In order to close some of the loopholes and strengthen federal and state authority, the Clean Air Act was amended in 1967.<sup>33</sup> The Department of Health, Education and Welfare (whose authority is now vested in the Environmental Protection Agency) was required to designate air quality control regions, to issue ambient air quality criteria and to report on potential pollution control techniques. Following the establishment of criteria, state governors were required to submit, within ninety days, a letter of intent to comply. The state was then allowed 180 days to set standards and an additional 180 days to develop an implementation plan to insure compliance. Congress thus explicitly recognized that the states have the primary responsibility for the control of air pollution.

Under the scheme of the 1967 amendments, the federal government was responsible for: (1) designating Air Quality Control Regions; (2) selecting the pollutants in need of control; (3) compiling all scientific information available for each selected air pollutant (called air quality *criteria*); and (4) establishing control techniques for each selected pollutant. This information was then to be transmitted to the states for use in controlling the pollutant.

Armed with the data on criteria and control techniques, states were to hold hearings and set air quality *standards* (allowable amount of the pollutant in the air) in the Air Quality Control Regions as designated by the Department of Health, Education and Welfare. After review of the standards by federal authorities,

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31. *United States v. Bishop Processing Co.*, 423 F.2d 469 (4th Cir. 1969).

32. *Washington Post*, July 29, 1971, § B at 1. For a detailed account of *Bishop*, see J. ESPOSITO, *VANISHING AIR* 114-17 (1970).

33. Air Quality Act of 1967, Pub. L. No. 90-148, 81 Stat. 485, *amending* 42 U.S.C. §§ 1857-57I (1964) (codified at 42 U.S.C. §§ 1857-57I (1970)) [hereinafter cited as Air Quality Act of 1967, Pub. L. No. 90-148, 81 Stat. 485].



the states were to proceed to the development of implementation plans—by far the most difficult step in the Act. To be included in the implementation plans were the proposed means of enforcement, the emission standards for various categories of sources, and abatement schedules.<sup>34</sup>

In compliance with the Act, the Department of Health, Education and Welfare issued air quality criteria and reports on control techniques for six pollutants: (1) sulfur oxides, (2) particulate matter, (3) hydrocarbons, (4) nitrogen oxides, (5) carbon monoxide and (6) photochemical oxidants.<sup>35</sup> To illustrate the machinery established by the 1967 amendments, the hypothetical course of one of these six pollutants will be traced through the requirements of the Act. Once a pollutant, for example sulfur oxide, has been determined by the federal government to have reached a level requiring regulation, air quality *criteria* would be established outlining the pollutant's properties and probable effects. The methods to *control* sulfur oxides would then be compiled and published by the federal authorities. After the development of the criteria and control techniques, the appropriate state would assume responsibility for setting an air quality *standard* for the sulfur oxides in each region under the state's jurisdiction. This step would require a public hearing. After the standard has been established by the state and approved by the federal government, the state would then prepare an *implementation plan* by which the established standard for sulfur oxides could be achieved. Responsibility for the enforcement of the implementation plan would rest with the state.

Despite the need for a more effective system of controlling air pollution, the 1967 Act failed to resolve several serious problems. Foremost among the shortcomings of the 1967 Act was the necessity of innumerable public hearings required in each region for each pollutant meeting the federally established criteria. If the federal criteria were to be subsequently changed, the entire hearing process would have to begin anew. The setting of air quality control standards became a numbers game. Since a definite level for the pollutant had to be set, hearings would often break down into disputes over the exact parts per million of the pollutant that

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34. See Middleton, *Summary of the Air Quality Act of 1967*, 10 ARIZ. L. REV. 25 (1968).

35. See ENVIRONMENTAL LAW at three-31. See also Muskie, *Role of the Federal Government in Air Pollution Control*, 10 ARIZ. L. REV. 17 (1968).

would be permissible in the atmosphere. The success of the 1967 Act was also plagued by the problems of regionalization since the designation of Air Quality Control Regions often cut across generally recognized jurisdictional lines. Although in theory the vesting of primary authority in the states for the enforcement of pollution control plans was an excellent idea, most states were completely unprepared for large-scale programs in the air pollution area. Moreover, many large cities had already implemented air pollution control programs far superior to the one administered by the state of which they were a part,<sup>36</sup> which in turn led to distracting power struggles and other conflicts.<sup>37</sup>

In spite of the efforts made to control air pollution under the 1967 Act, the pollution problem continued to increase. The congressional response was the Clean Air Amendments of 1970.<sup>38</sup> The Reorganization Plan of 1970<sup>39</sup> concentrated control of essentially all environmental programs in one agency, the Environmental Protection Agency (E.P.A.); responsibility for air pollution control programs was vested in the National Air Pollution Control Agency (NAPCA). Although the amendments<sup>40</sup> recognized the states' authority, the position of the federal government was considerably strengthened. The nation was to be divided into control regions.<sup>41</sup> The administrator of the E.P.A. was required to publish a list of harmful pollutants for which no air quality criteria had been issued. Within twelve months after publication of the list, air quality criteria were to be promulgated covering each of the additional pollutants.<sup>42</sup>

Responsibility for establishing standards under the new scheme rested with the Administrator who was required to set national primary and secondary air quality standards.<sup>43</sup> Primary standards were defined as those standards necessary to protect the public health and allow for a margin of safety. Secondary standards were those which, in the Administrator's judgment,

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36. See ENVIRONMENTAL LAW at three-82.

37. See generally ENVIRONMENTAL LAW at three-32 to 35; O'Fallon, *Deficiencies in the Air Quality Act of 1967*, 33 LAW & CONTEMP. PROB. 275 (1968).

38. Clean Air Amendments of 1970, Pub. L. No. 91-604, 84 Stat. 1676.

39. 35 Fed. Reg. 15623 (1970).

40. Clean Air Amendments of 1970, Pub. L. No. 91-604, § 107(a), 84 Stat. 1676.

41. *Id.* § 107(b).

42. *Id.* § 108(a)(1)-(2).

43. *Id.* § 109.

protected the public from the adverse effects of air pollution.<sup>43.1</sup> Hopefully, establishment of these standards will be accomplished by 1975. On May 31, 1972, the E.P.A. granted two year extensions to eighteen states to allow them to achieve the appropriate levels. This decision recently suffered a setback at the hands of the court of appeals. *Natural Resources Defense Council v. Environmental Protection Agency*<sup>44</sup> eliminated the two year extensions and held that compliance with clean air standards would be required by mid-1975. Certain states had been allowed to delay until February 15, 1973, the submission of transportation control plans as part of their implementation plans. Those states were also granted extensions until mid-1977 for the attainment of the national primary ambient air standards without being required to follow the procedures established in section 110(e) of the Act.<sup>45</sup> The court found a clear violation of the Act and required the E.P.A. to notify all concerned states that amended and completed plans must be submitted by April 15, 1973, to guarantee attainment of the standards by the Act's deadline date of May 13, 1975. Moreover, the completed plans were to be approved or disapproved by the E.P.A. no later than June 15, 1973. Should a state fail to comply or fail to submit an effective plan, the E.P.A. would be required to submit an implementation plan for that state by August 15, 1973. Any extensions beyond the deadline established by the Act could only then be considered and only if the requirements of section 110(e) were followed.<sup>46</sup>

As a result of the 1970 amendments, the E.P.A. was given increased control. The Administrator was empowered to promulgate an implementation plan for states failing to submit satisfactory plans within the prescribed time.<sup>47</sup> Moreover, new "stationary sources" (any structure or facility which emits or may emit any air pollutant) were required to install the best system of emission reduction practicable. "New sources" was defined to include any modification of a source already in existence. In any event, the Administrator was empowered to establish performance standards for any new stationary sources in those categories that significantly endanger the public health or welfare.<sup>48</sup>

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43.1. *Id.*

44. 475 F.2d 968 (D.C. Cir. 1973).

45. Clean Air Amendments of 1970, Pub. L. No. 91-604, § 110(e), 84 Stat. 1676.

46. *Id.*

47. *Id.* § 110.

48. *Id.* § 111.

Section 112<sup>49</sup> embodied another major change in that it required the E.P.A. to set emission standards for hazardous air pollutants. Pollutants considered toxic by the E.P.A. are classified as "hazardous pollutants," a category not limited to or necessarily including those for which standards have already been adopted. Section 112 was made applicable to new sources as well as to the modification of existing sources. Section 112 permits the President to exempt any stationary source from compliance with the section's provisions. Recently, President Nixon, asserting authority to act on his own, announced a relaxation of air pollution standards for industry in an attempt to ease an expected shortage of house heating oil during the winter of 1973-74. The relaxation of standards and the postponed enforcement of others was designed to allow greater industrial use of such high-pollution fuels as coal, thus releasing low-sulphur oil and natural gas for home consumption. Although not strictly in keeping with the Presidential exemption of section 112, the Administrator of the E.P.A. apparently agreed with the decision since primary standards would not be significantly affected and no public health hazard would be involved.<sup>50</sup>

Sections 111 and 112 represent significant departures from the philosophy of the 1967 Act, since both sections manifest an attempt to control emissions directly. Accordingly, the emphasis of the 1970 amendments is to control what is emitted from the sources without necessarily allowing the percentage of pollutant in the atmosphere to reach a maximum level. This new philosophy is strengthened by section 113.<sup>51</sup> If the Administrator determines that a state is not fulfilling its enforcement role, after thirty days notice, he may assume complete responsibility for the implementation plan and its enforcement. Additionally, the Administrator may issue cease and desist orders or commence a civil action. If a *new* source is involved, the Administrator can take direct action without giving any notice. Other provisions of the Act augment the increased federal control. Operators of emission sources are required to conduct monitoring and sampling and to maintain records as deemed necessary by the E.P.A.<sup>52</sup> The confer-

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49. *Id.* § 112.

50. *The State* (Columbia, S.C.), Sept. 9, 1973, § A at 1.

51. Clean Air Amendments of 1970, Pub. L. No. 91-604, § 113, 84 Stat. 1676.

52. *Id.* § 114.

ence technique, although retained, is relegated to a minor role since no conference is necessary with respect to an air pollutant for which a national air quality standard has already been established.<sup>53</sup> Furthermore, a state is permitted to impose more stringent standards than those imposed by the federal government.<sup>54</sup>

An important and highly controversial addition to the federal law was a provision allowing citizen suits against any person (including the United States) for violation of an emission standard or order of the E.P.A.<sup>55</sup> If, however, the Administrator or a state has undertaken a civil action, a citizen suit is barred. The thrust of section 304 is that any person in the United States may serve as a "private Attorney General" in protecting the environment. When coupled with other provisions, citizen suits may prove a powerful addition to the Clean Air Act in persuading private industry to comply with federal pollution standards. For example, under section 307,<sup>56</sup> federal agencies are prohibited from procuring goods or services from, or extending federal assistance to, any facility that has been convicted of a violation of the Act.<sup>57</sup>

In short, the 1970 amendments gave new vitality to the faltering Clean Air Act of 1967. The federal government essentially assumed ultimate responsibility for the control of air pollution. The Administrator of the Environmental Protection Agency was given broad powers to enforce pollution control plans, subject only to the limitation that enforcement be postponed until thirty days after notifying the putative polluter of impending action.<sup>58</sup> The 1970 amendments represented a shift away from reliance upon the ambient air quality standards concept of the 1967 Act. At present the Clean Air Act is a hybrid approach which incorporates control by simultaneous methods—standard setting and emission control.<sup>59</sup> Even in the area of standard setting, the E.P.A.'s authority was greatly enhanced. In *Fri v. Sierra Club*,<sup>60</sup>

53. *Id.* § 115.

54. *Id.* A state may not impose, however, stricter standards on automobile emissions.  
*Id.*

55. *Id.* § 304. The Administrator may be sued only for violating a non-discretionary duty.

56. *Id.* § 307.

57. The President may exempt a facility from this penalty if he determines that an exemption would be in the paramount interest of the United States. *Id.* § 307(d).

58. *Id.* § 113.

59. See generally ENVIRONMENTAL LAW at three-36 to 53; Stevens, *Air Pollution and the Federal System: Responses to Felt Necessities*, 22 HAST. L.J. 661 (1971).

60. *Sierra Club v. Ruckelshaus*, 344 F. Supp. 253 (D.D.C. 1972), *aff'd* No. 72-1528 (D.C. Cir. 1972), *aff'd sub. nom. Fri v. Sierra Club*, 412 U.S. 541 (1973).

the E.P.A.'s authority to require that state implementation plans provide against deterioration of existing air quality was upheld. In effect, the Administrator can now require the states to submit plans which would insure that air conditions never degenerate. In compliance with the 1970 amendments, the E.P.A. has issued final regulations determining which new sources would be subject to emission limits.<sup>61</sup>

In the final analysis, the administrative ability of the Environmental Protection Agency, the manpower and financial structure of the state and regional programs, and the degree of cooperation between the various agencies will determine the success or failure of the air pollution program. Since the attempt to control pollution through air quality standards has proved to be a failure, the emission control program established by the 1970 amendments must form the backbone of the effort to clean the air. While some industries can achieve major pollution control at a relatively low cost, others may be unable to comply with emission requirements without exceedingly expensive adjustments. Care must be exercised in setting emission standards for these sources in order that the resulting limitations be practical. Failure to do so encourages noncompliance and was one of the primary reasons former efforts at control proved futile.

## 2. Motor Vehicle Controls

The first significant attempt to control motor vehicle pollution at the federal level came in 1965.<sup>62</sup> The Motor Vehicle Air Pollution Control Act required the installation of air pollution controls that would meet standards set by the federal government. Congress specifically pre-empted the field in the Air Quality Act of 1967,<sup>63</sup> and this pre-emption has carried over to the present day. An exception was made for California,<sup>64</sup> which was

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61. The decision was made to control: (1) contact sulfuric acid plants, (2) fossil fuel-fired steam generators, (3) municipal incinerators, (4) nitric acid plants, and (5) portland cement plants. 36 Fed. Reg. 5931 (1971). Moreover, a list of pollutants subject to direct federal control as "hazardous emissions" has been published. 36 Fed. Reg. 15486 (1971).

62. Motor Vehicle Air Pollution Control Act, Pub. L. No. 89-272, 79 Stat. 992 (Oct. 20, 1965), amending 42 U.S.C. § 1857e (1964) (codified at 42 U.S.C. §§ 1857f-1 to 7 (1970)).

63. Air Quality Act of 1967, Pub. L. No. 90-148, § 209, 81 Stat. 485. For an argument against federal pre-emption in the field of air pollution, see Currie, *Motor Vehicle Air Pollution: Authority and Federal Pre-emption*, 68 MICH. L. REV. 1083 (1970). See also *Huron Portland Cement Co. v. City of Detroit*, 362 U.S. 440 (1960).

64. Air Quality Act of 1967, Pub. L. No. 90-148, § 208(b), 81 Stat. 485.

the only state with a highly developed motor vehicle emission program when the 1967 Act was passed. Federal control of motor vehicle emissions was greatly strengthened by the 1970 amendments.

Under section 202 of the Clean Air Act as amended in 1970,<sup>65</sup> the E.P.A. was required to develop emission standards to be applicable for the useful life of the vehicle. This section also required that carbon monoxide and hydrocarbon emissions be reduced 90 percent by 1975, using 1970 as the base year. Nitrogen oxides were to be reduced 90 percent by 1976, using 1971 as the base year. The Administrator was granted the power to suspend the deadlines for one year. A "certificate of conformity" was required before new vehicles or engines could be introduced into commerce,<sup>66</sup> and injunctive proceedings were permitted to enforce compliance.<sup>67</sup> Furthermore, violations of the Act were punishable by a civil penalty of up to ten thousand dollars for each offense.<sup>68</sup>

The 1970 amendments closed a major loophole that existed in the 1967 Act by establishing new standards and methods for testing vehicles for conformity with the emission standards established by regulation.<sup>69</sup> Should a vehicle or engine fail the inspection, the certificate of conformity could be either revoked or suspended, thus making any attempt to market the vehicle a violation of the Act. Furthermore, the amendments required a warranty from the manufacturer to the ultimate purchaser stating that the vehicle has met all federal emission standards.<sup>70</sup> The results of the Administrator's tests of each vehicle were required to be made available to the public.<sup>71</sup>

Two very interesting aspects of the 1970 amendments work to the detriment of automobile manufacturers. First, the amendments only permit a one-year delay with no extension for compliance with the 1975 and 1976 model year reduction requirements.<sup>72</sup> As a result, if technological developments fail to produce an automobile that will conform to the federal emission standards

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65. Clean Air Amendments of 1970, Pub. L. No. 91-604, § 202, 84 Stat. 1676.

66. *Id.* § 203.

67. *Id.* § 204.

68. *Id.* § 205.

69. *Id.* § 206.

70. *Id.* § 207.

71. See Federal Certification Test Results for Model Year 1971, 36 Fed. Reg. 6934 (1971).

72. Clean Air Amendments of 1970, Pub. L. No. 91-604, § 202 b(5)(B), 84 Stat. 1676.

by 1976 (1977 for meeting the standards for nitrogen oxides), the automobile industry will be faced with an order to cease interstate shipments and sales of their product. A second significant aspect of the amendments is that the Administrator may grant suspension of the effective date of emission standards only: if the suspension is essential to the public interest, health and welfare; if good faith attempts to meet the standards have been made; and if the requisite technology is not available or has not been available for a sufficient length of time.<sup>73</sup> Such criteria require of the manufacturer an extremely high standard of performance. Applications for the maximum one year extension were made by General Motors, Chrysler, Ford Motor, and International Harvester and subsequently denied on May 12, 1972. The Administrator's decision was appealed to the court of appeals and remanded for further proceedings.<sup>74</sup> On March 5, 1973, American Motors applied for suspension of the emission standard's effective date, and its application (along with those of the other four) was considered in a public hearing. On April 11, 1973, the Administrator granted a one year suspension to the five applicants and simultaneously prescribed interim standards.<sup>75</sup> The prescribed interim standards required all 1975 model automobiles sold in California, as well as a small percentage of vehicles destined for other areas, to be equipped with recently developed catalytic converters.<sup>76</sup> Catalysts were not required on all 1975 models since the converters were still in an experimental stage and the E.P.A. was convinced by testimony presented at the hearing that mass production was not yet feasible.<sup>77</sup> California was singled out for two basic reasons: the pre-existing severe air pollution problem and the state's interest in new developments to combat pollution.<sup>78</sup>

Experiments have thus far indicated that the catalytic converter is a highly effective emission control mechanism, the cost of which will not prove excessive to the consumer. The E.P.A. estimated that a 1975 vehicle equipped with a converter will cost about \$160 more than the emission control system on a 1973

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73. *Id.* § 202 b(5)(D).

74. *International Harvester Co. v. Ruckelshaus*, Civil No. 72-1517 (D.C. Cir., Feb. 10, 1973).

75. 38 Fed. Reg. 10317 (1973).

76. *Id.* at 10318.

77. *Id.* at 10321.

78. *Id.* at 10324.



model. The catalyst itself will cost approximately \$57.<sup>79</sup> There is, however, one distinct disadvantage. Vehicles equipped with the catalytic converter will require gasoline with a very low lead content. Although the cost of non-lead gas does not appear of major consequence, non-lead gas must be generally available when the catalyst is adopted nationwide.<sup>80</sup> The E.P.A. estimated that a two percent increase in petroleum consumption would be necessary to refine gasoline to the required octane levels without the use of lead additives.<sup>81</sup> The real problem, therefore, is the shortage of gasoline and steadily rising costs. Perhaps American manufacturers will produce a more effective conversion system capable of operating on leaded gas in order to meet foreign competition. Toyo Kogyo and Honda, two Japanese manufacturers, plan to market large numbers of automobiles with innovative engines which achieve greater emission reductions than do conventional engines equipped with catalytic converters.<sup>82</sup> In the end, more may be accomplished through the market place than by federal law.

### 3. Transportation Controls

In most areas of the country, national ambient air quality standards could be achieved simply by rigid enforcement of emission controls on *stationary* sources. In other areas, particularly large urban centers, vehicle emission levels would also have to be reduced. In some of the more congested parts of the country, however, even the combination of these two control methods has proved inadequate. Consequently, the E.P.A., acting on authority provided by the Act,<sup>83</sup> and in consonance with the Administrator's regulations,<sup>84</sup> advised California and several other states that they must submit *transportation control plans* by February 15, 1973. These plans were to include detailed information clearly defining the methods proposed by the state to reduce vehicle emission to an acceptable level. Transportation control measures are "any measure, such as reducing vehicle use, changing traffic flow patterns or decreasing emissions from individual motor vehi-

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79. *Id.* at 10321.

80. *Id.* at 10327.

81. *Id.* at 10326.

82. *Id.* at 10319.

83. Clean Air Amendments of 1970, Pub. L. No. 91-604, § 110(a)(2)(B), 84 Stat. 1676.

84. 40 C.F.R. § 51 (1972).

cles, that is directed toward reducing emissions of air pollutants from transportation sources.”<sup>85</sup> Examples of transportation control measures include: (1) mass transit, (2) increasing use of car pools, (3) vehicle free zones, (4) gasoline rationing, (5) increasing the cost of motor vehicle use, (6) limitations on the number of registered vehicles, (7) land use controls, and (8) any combination of the above measures.

Moreover, these measures could prove useful in partially easing the energy crisis. In fact, several of these measures were specifically suggested by President Nixon in his energy message on November 7, 1973.

Any one of these measures would obviously have a significant social and economic impact on the community in which they were imposed. With regard to a proposed transportation plan for the Los Angeles area,<sup>86</sup> the Environmental Protection Agency admitted that:

[I]t appears that any plan that will attain the primary standard by 1977, whether it includes gasoline rationing or some other strategy to reduce VMT (vehicle miles traveled) will lead to significant economic disruptions and will certainly result in a major transformation in the life style of residents of the South Coast Air Basin.<sup>87</sup>

Interestingly, California had earlier submitted a plan for the Los Angeles area but the plan had been disapproved by the Administrator because of a failure to provide specifically for the achievement of the ambient standard for photochemical oxidants.<sup>88</sup> Subsequent to the disapproval of the plan, the cities of Riverside and San Bernardino, along with other interested organizations and individuals, instituted a suit against the Administrator.<sup>89</sup> The complaint alleged that the Administrator had failed to promulgate transportation controls for the Air Basin in spite of the fact that controls were needed. Transportation controls, the complaint further alleged, were the responsibility of the Administrator since he had disapproved the state's plan. The district court on November 16, 1972, determined that no additional time for study could be granted to the E.P.A. and the Administrator was

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85. 38 Fed. Reg. 1464 (1973).

86. 38 Fed. Reg. 2194 et seq. (1973).

87. *Id.* at 2195.

88. 37 Fed. Reg. 10842 (1972).

89. *City of Riverside v. Ruckelshaus*, Civil No. 72-2122-H (C.D. Cal., Nov. 16, 1972).

ordered to publish a proposed plan in the Federal Register by January 15, 1973.

South Carolina, together with a majority of the states, has not yet been subjected to transportation controls. The gravity of the situation in areas such as Los Angeles is, however, rapidly becoming apparent. The potential disruptions of economic activities and individual life styles confronting these areas should serve as a warning to areas where the problem has not yet reached critical proportions. Effective planning and continued preparation are required to ward off the possibility of incurring such controls in the future.<sup>90</sup>

### B. *Non-Statutory Controls*

The 1970 amendments to the Clean Air Act make it clear that citizens' attempts to seek redress for air pollution damage in the courts under common law theories are not prohibited.<sup>91</sup> As a result, a wide range of non-statutory actions exist that allow individuals to obtain injunctive relief to control sources of air pollution. For the most part, the most viable non-statutory control mechanism is the common law action for nuisance—both public and private.<sup>92</sup> Since air pollution statutes are primarily designed to regulate pollution over sizable geographic areas, they frequently lack the needed flexibility to deal with the problems of pollutants concentrated in the immediate area of the source. Nuisance suits, by utilizing the flexibility of equitable relief, may serve to bring direct pressure to bear on the polluter.<sup>93</sup> It may be important, however, to distinguish between public and private nuisance actions in some states since several jurisdictions have refused to consider public nuisance actions an appropriate remedy for air pollution.<sup>94</sup> In Pennsylvania for example, the courts

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90. See E.P.A., PREDICTION OF THE EFFECTS OF TRANSPORTATION CONTROLS ON AIR QUALITY CONTROLS IN MAJOR METROPOLITAN AREAS (1972); E.P.A., EVALUATING TRANSPORTATION CONTROLS TO REDUCE MOTOR VEHICLE EMISSIONS IN MAJOR METROPOLITAN AREAS, FINAL REPORT (1972).

91. Clean Air Amendments of 1970, Pub. L. No. 91-604, § 304(e), 84 Stat. 1676.

92. See generally Prosser, *Private Action for Public Nuisance*, 52 VA. L. REV. 1001 (1966); Melle, *Private Legal Action for Air Pollution*, 19 CLEV. ST. L. REV. 480 (1970); Comment, *Air Pollution, Nuisance Law, and Private Litigation*, 1971 UTAH L. REV. 142.

93. See Porter, *The Role of Private Nuisance Law in The Control of Air Pollution*, 10 ARIZ. L. REV. 107, 112 (1968).

94. A private nuisance results from an unreasonable use of one's property in a manner which substantially interferes with the enjoyment of another's property. A public nuisance, on the other hand, results from the unreasonable interference with the common

have held that the air pollution statutes have pre-empted *public* nuisance law in the area of air pollution.<sup>95</sup> Consequently, a private nuisance action would be the *only* appropriate common law theory to advance in Pennsylvania.<sup>96</sup>

In *City of Miami v. City of Coral Gables*,<sup>97</sup> on the other hand, the Florida District Court of Appeals permitted the city of Miami and individual residents to enjoin, in the same action, the operation of a neighboring city's municipal incinerator as both a *public* and *private* nuisance. In ignoring the artificial distinctions between public and private nuisance, the Florida court focused instead on the adverse environmental effect of the incinerator's operation. Although a similar action filed in 1962 had been dismissed with prejudice, the court's shift in attitude reflected the changing times:

No doubt the instant litigation is representative of an entire assault by the people of this nation in response to the "crimes against the environment" which have been perpetrated by the users of our amassed technologies. Recognition of the public's right to pure air, soil, and water has been forthcoming . . . and the legal community is now mobilizing itself to pursue the avenues of relief available.<sup>98</sup>

Oftentimes a factory or industrial concern will not constitute a nuisance *per se*, but the manner in which it is operated or the damage resulting from its operation may bring the pollution source within the category of a nuisance *per accidens*. South Carolina courts have recognized this conceptual distinction and are willing to grant individual relief in situations where a nuisance is created merely because of the location of the activity:

[W]here an exclusively or predominantly residential character may be ascribed to the neighborhood in which it [the activity] is located and operated, the business as conducted in such location may constitute a nuisance in fact or *per accidens*.<sup>99</sup>

Despite the availability of nuisance actions as a weapon in

well-being, health, or property rights of the public at large.

95. *Commonwealth v. Glen Alden Corp.*, 418 Pa. 57, 210 A.2d 256 (1965).

96. *See Reynolds Metal Co. v. Martin*, 337 F.2d 780 (9th Cir. 1964). *See also* Porter, *The Role of Private Nuisance Law in the Control of Air Pollution*, 10 ARIZ. L. REV. 107 (1968).

97. 233 So. 2d 7 (Fla. Ct. App., 1970).

98. *Id.* at 9.

99. *Welborn v. Page*, 247 S.C. 554, 563, 148 S.E.2d 375, 379 (1966):

the anti-air pollution arsenal, this form of non-statutory control is subject to inherent limitations. The normal elements of any tort action—causation, injury and damage—must be alleged and proved. The requisite degree of proof in most cases is difficult.<sup>100</sup> Moreover, many courts will refuse to enjoin a polluter's activities and will instead award monetary damages. In *Boomer v. Atlantic Cement Co.*,<sup>101</sup> the New York Court of Appeals considered the economic impact on the community that would result in enjoining the defendant's activities and refused to issue an injunction. The plaintiff, who had instituted the suit for the purpose of pollution abatement had to be content with an award of monetary damages. A better solution might have been an injunction designed to become effective at a future date and contingent on the defendant's good faith efforts to solve the problem.<sup>102</sup> *Boomer* illustrates a "balancing" concept that usually works to the detriment of one suing for abatement of air pollution. One encouraging prospect for potential plaintiffs in South Carolina is the refusal of the South Carolina Supreme Court to adhere to a balancing of conveniences:

It has been too frequently held by this court to require discussion that, when the existence of a nuisance has been established by the verdict of a jury, the party injured is entitled as a matter of right to an injunction to prevent its continuance. Whatever may be the doctrine in other states, under the provisions of the Constitution of this state, that private property shall not be taken for private use without the consent of the owner, the court could not have considered, in deciding whether to grant or refuse the injunction, the question raised by the defendant as to the balance of convenience. . . .<sup>103</sup>

Although South Carolina's refusal to recognize a "balancing of convenience" approach has never been specifically applied to a situation involving air pollution by a major industry, theoretically the operation of a polluting industrial concern could be enjoined without regard to the economic impact of such an action.

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100. See Porter, *The Role of Private Nuisance Law in the Control of Air Pollution*, 10 ARIZ. L. REV. 107, 113 (1968).

101. 26 N.Y.2d 219, 257 N.E.2d 870, 309 N.Y.S.2d 312 (1970).

102. See Comment, *Air Pollution, Nuisance Law, and Private Litigation*, 1971 UTAH L. REV. 142.

103. *Williams v. Haile Gold Mining Co.*, 85 S.C. 1, 6, 66 S.E. 117, 118 (1909). See also *Dill v. Dance Freight Lines*, 247 S.C. 159, 146 S.E.2d 574 (1966).

Apart from actions grounded on nuisance concepts, other theories of recovery may provide a basis for individual suits to control pollution. The theory of trespass may prove applicable if some identifiable interference with the right to possession of property can be demonstrated.<sup>104</sup> Additionally, recovery on a theory of negligence may be appropriate on occasion. Neither action, however, would provide a satisfactory method of pollution control since a potential plaintiff must seek pecuniary reimbursement and not injunctive relief. If a polluter can continue his activities by merely absorbing damage payments in his cost of doing business, the goal of pollution abatement would be frustrated. One possible solution to this dilemma might be class actions for damages. Facing multiple plaintiffs with substantial aggregated damage amounts, polluters might be willing to curb those activities causing the pollution. In most cases, however, class actions for even injunctive relief have not been widely accepted.<sup>105</sup>

Recent progress in the development of state statutory law in the area of air pollution may moot all questions concerning private tort law actions to control air pollution. In this writer's view, a far more cohesive and efficient system of environmental controls will result from planning and preparation within a state's statutory framework. Avoiding the need for individuals to resort to the courts to control pollution appears to be as environmentally wise as it is economically sound.

### C. *South Carolina Statutory Control*

#### 1. *Statutory Authority*

The keystone of South Carolina's statutory plan for environmental control is the Pollution Control Act of 1970<sup>106</sup> which deals with both air and water pollution. The Act created a Pollution Control Authority<sup>107</sup> having the status of an independent state agency, effective July 1, 1971. Its primary responsibility is the abatement, control and prevention of pollution.<sup>108</sup> More specifi-

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104. See *Martin v. Reynolds Metals Co.*, 221 Ore. 86, 342 P.2d 790 (1959).

105. See, e.g., *City of Chicago v. General Motors Corp.*, 332 F. Supp. 285 (D. Ill. 1971); *Diamond v. General Motors Corp.*, 20 Cal. App. 3d 374, 97 Cal. Rptr. 639 (1971). But cf. *Riter v. Keokuk Electro-Metals Corp.*, 248 Iowa 710, 82 N.W.2d 151 (1957).

106. S.C. CODE ANN. § 63-195 et seq. (Supp. 1971).

107. *Id.* § 63-195.2.

108. *Id.* § 63-195.1.

cally the Authority's duties consist of the adoption of standards necessary for compliance with the Federal Clean Air Act. To this end, the agency is empowered to hold public hearings, to compel attendance of witnesses, to make appropriate findings and to assess penalties for violations of the Act.<sup>109</sup> Of particular importance is the agency's power to issue orders requiring discontinuance of the discharge of air contaminants when the discharge creates undesirable pollution levels.<sup>110</sup> Additionally, the agency can institute judicial proceedings, including requests for injunctive relief, to force compliance with the standards set by the Authority.<sup>111</sup>

Any person desiring to erect a *new* outlet or source for the discharge of air contaminants or to *increase* the discharge from an *existing* outlet or source must first apply to the Authority for a construction permit and a permit to discharge contaminants from that source.<sup>112</sup> If the Authority determines that the discharge from the construction or modification does not violate air quality standards, the permit application would be approved. Enforcement of the air quality program depends in large part on this permit system. By requiring the applicant to obtain from the Authority a construction permit, the initial responsibility is placed on the would-be developer to disclose the type of contaminant to be discharged, thus enabling the Authority to prevent construction that would damage the maintenance of appropriate air quality standards. Since the permit system requires the applicant to produce plans, studies and figures concerning his potential operation, vital information may be retained and later used by the Authority in enforcing air quality standards with respect to the developer. More importantly, the permit requirement insures that environmental effects will be considered in the planning stage of any new enterprise.

Another significant provision of the Act is the power placed in the Authority to allow variances in appropriate circumstances.<sup>113</sup> Variances under the Act must be specific as to length of time, and in no case granted until the applicant agrees to submit periodic reports to the Authority describing any progress made toward compliance with applicable regulations and standards.

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109. *Id.* § 63-195.8(1).

110. *Id.* § 63-195.8(3).

111. *Id.* § 63-195.8(4).

112. *Id.* § 63-195.13.

113. *Id.* § 63-195.16.

The variance is a necessary element of any pollution control statute, for when properly used, it insures workability. For example, in a situation involving an industrial concern of major economic impact, if the industry is causing marginal environmental damage which does not respond to good faith efforts to control it, a variance could be granted on the condition that the industry continue in its attempt to control the pollution. Since the Act requires that a time limit be set on any variance, the Authority could decline to renew the variance if it appeared that the industry was not acting in good faith or if the resulting damage was reaching major proportions. Variances may also be utilized in situations in which existing technology is inadequate to control a particular pollutant. Of course, if granted freely, the variance would be counter-productive, but if granted with appropriate safeguards, such a system could greatly strengthen a pollution abatement statute.

As part of the enforcement procedures, the Act provides the Authority with power to enter public or private property for investigation and inspection of pollution conditions. An agent of the Authority may examine any records pertaining to the operation of a disposal system or source. In the case of private residences or dwellings containing four families or less, however, this power may be exercised only if reasonable cause exists to believe the dwelling is a source of air contaminants.<sup>114</sup> The fourth amendment's proscription against unreasonable searches is, of course, applicable to entries for purposes of inspection, investigation, or monitoring of potential pollution sources. Administrative inspections require a warrant to be obtained, absent an emergency, should the owner of the property not consent to the search or inspection. In considering an annual inspection under a municipal housing code, the Court in *Camara v. Municipal Court*<sup>115</sup> held:

[A]dministrative searches of the kind at issue here are significant intrusions upon the interests protected by the Fourth Amendment [and] such searches when authorized and conducted without a warrant procedure lack the traditional safeguards which the Fourth Amendment guarantees to the individual, and that the reasons put forth in *Frank v. Maryland* and

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114. *Id.* § 63-195.8(23).

115. 387 U.S. 523 (1967). In a companion case, *See v. City of Seattle*, 387 U.S. 541 (1967), the Court extended the holding of *Camara* to include commercial enterprises as well as private dwellings.



in other cases for upholding these warrantless searches are insufficient to justify so substantial a weakening of the Fourth Amendment's protections.<sup>116</sup>

Interestingly, the Court indicated that the standard for determining probable cause for issuance of the inspection warrant is not identical to probable cause in the traditional criminal setting. Probable cause would exist in inspection situations when there is a valid public interest justifying the intrusion upon private property. It would seem to be advisable, however, for state authorities to obtain a warrant in *all* cases where consent to enter is not given. This should not prove to be too restrictive a burden.

Although the Act does not specifically require the polluter to maintain records or submit results of self-imposed monitoring systems to the agency, apparently the authority to require such measures where *new* sources are involved can be derived from the Act. Section eight provides that the Authority may "issue, deny, revoke, suspend or modify permits *under such conditions as it may prescribe* for the prevention and abatement of pollution . . . ." <sup>117</sup> Thus, as one of the conditions for obtaining a permit, the Authority could require that the polluter agree to maintain and submit pollution control records. This provision is not applicable to existing sources—a shortcoming of the Act which needs to be considered by the legislature.

Within the scheme of the Pollution Control Act, three groups can trigger the enforcement machinery of the Clean Air Act. First is the Pollution Control Authority, which can institute legal proceedings compelling compliance with the Act. Second, the State Attorney General, serving as legal adviser to the Authority, may institute injunctive proceedings or other court action upon their request. Third, in line with the "citizen suit" provision of the federal act, the individual citizen is recognized as an enforcing agent. Section twenty-seven specifically provides that:

[N]othing herein contained shall abridge or alter rights of action in the civil courts or remedies existing in equity or under the common law or statutory law, nor shall any provision in this Act . . . be construed as estopping the State, persons, or municipalities . . . to suppress nuisances or to abate any pollution.<sup>118</sup>

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116. 387 U.S. at 534.

117. S.C. CODE ANN. § 63-195.8(5) (Supp. 1971) (emphasis added).

118. *Id.* § 63-195.27.

Section 303<sup>119</sup> of the Clean Air Act empowers the Administrator of the Environmental Protection Agency to institute legal action in United States district court when a pollution source presents *imminent* and *substantial* danger to the health and well-being of persons. South Carolina's present law appears to provide even stronger emergency authority than the federal law. The state emergency provisions, found in section thirty-two,<sup>120</sup> allow *immediate* action (no court suit necessary) if the Authority determines that an emergency regarding public health or *property* exists. In such an event the Authority, with the Governor's approval, can issue an immediate order requiring any action necessary to meet the emergency. The "red tape" process of the federal law does not exist in the South Carolina procedure.

The Pollution Control Act also permits the development of local air pollution control programs<sup>121</sup> and prescribes criminal penalties for violations.<sup>122</sup> Any person wilfully violating the Act or regulations of the Authority is deemed guilty of a misdemeanor and is subject to a fine ranging from a minimum of \$100 to a maximum of \$5000 or imprisonment for a period of two years or less, or both. For a large corporate polluter who might be unconcerned with even a maximum fine of \$5,000, each day's violation constitutes a separate offense.

## 2. Regulations and Standards

In accordance with the Act, air pollution control regulations and standards were adopted by the Pollution Control Authority on July 26, 1972. These regulations and standards implement the permit system and other requirements of the Act. Emission controls and ambient air quality standards are also outlined.

In compliance with the emergency provisions of section thirty-two<sup>123</sup> of the Act, *episode criteria* have been adopted. An episode exists whenever the accumulation of air pollutants in any place approaches or attains levels which could, if sustained or exceeded, lead to a substantial threat to health. Basically, five levels of danger were established:

- (1) *Forecast*—this goes into effect when the National Weather

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119. Clean Air Amendments of 1970, Pub. L. No. 91-604, § 303, 84 Stat. 1676.

120. S.C. CODE ANN. § 63-195.32 (Supp. 1971).

121. *Id.* § 63-195.34.

122. *Id.* § 63-195.35.

123. *Id.* § 63-195.32.

Service issues an Air Stagnation Advisory (ASA) for any part of South Carolina.

(2) *Watch*—this level occurs when a certain concentration of sulfur dioxide, particulate matter or photochemical oxidant is found to exist.

(3) *Alert*—this level indicates a continued deterioration in air quality and need for additional controls.

(4) *Emergency*—is in effect when severe levels of sulfur dioxide, particulates or photochemical oxidants exist.

(5) *Termination*—indicates that any level once reached continues until the pollution concentrations are lowered below that level. In such case, the next lower level goes automatically into effect.

As the level of danger increases, any activity contributing to pollution may be heavily restricted. For example, in the "Watch level," open burning, incinerator use, operation of fuel burning equipment and automobile use can be curtailed. At the "Emergency level," these activities as well as many others would be prohibited entirely. For the duration of the emergency, use of automobiles, without police approval, would be forbidden.

### 3. The Implementation Plan

As required by federal law, South Carolina has devised an implementation plan which provides "for the attainment and maintenance of both primary and secondary national air quality standards by July 1, 1975 or earlier."<sup>124</sup> The plan divides the state into six districts to assist in the administration of the air pollution control program: (1) Greenville, (2) Lancaster, (3) Columbia, (4) Aiken, (5) Florence, and (6) Charleston. Additionally the state is divided into ten air quality regions, three of which are interstate in composition.

It was observed, when discussing the federal Act, that states were required to submit control techniques for the six categories of pollutants for which air quality criteria have been issued. A complete control technique (or strategy) consists of a survey of the existing air quality, an inventory of emissions from all pollution sources, necessary control measures and a time-table for compliance. Of major interest and encouragement is the fact that in South Carolina only particulates and sulfur dioxide necessitated regulation. The remaining pollutants — carbon monoxide,

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124. South Carolina Air Quality Implementation Plan at 1-1.

hydrocarbons, photochemical oxidants and nitrogen oxides—have not yet proved to be a significant problem in South Carolina. Despite that fact, the implementation plan insures that any future increases in the level of pollutants will not go undetected. An elaborate air quality surveillance network consisting of various types of monitoring systems has been established.

### III. CONCLUSION

The efforts to clean up the air are far from finished, but fortunately the legal framework at both the federal and state levels provides an excellent foundation on which to build. The 1970 amendments to the Clean Air Act has breathed life into the faltering national program. Although considerable power is concentrated in the federal government, state authority is wisely recognized. Congressional pre-emption has occurred only in the area of new automobiles. The Clean Air Act essentially recognizes that air pollution is largely a local problem, though national in scope. Consequently, enforcement is left primarily to the states, but should the states neglect their responsibilities, the federal government will assume them. If South Carolina utilizes its statutory scheme in good faith, its air pollution may be controlled with little or no interference from Washington.

Any attempt to control pollution and protect clean air necessarily consists of more than the passage of "good laws." To date, South Carolina has been exceedingly fortunate, but air pollution is a technically complex problem and as the industrial age advances, more than luck will be required. Every industrial concern and each individual citizen must be willing to take part in preserving clean air. Enforcement of pollution controls requires understanding, cooperation, and, in some cases, sacrifice. Pollution control does not mean that we must take a negative approach to growth. Much of today's industry can conform to patterns that are not environmentally destructive. As science develops better methods of production and improved anti-pollution devices, pollution should correspondingly diminish. Economic growth and environmental quality can co-exist. Given the method of control, we must supply the effort.

