VAPOR RECOVERY: LAST GASP OF
THE CLEAN AIR ACT?

INTRODUCTION

On January 17, 1972, the San Diego County Air Pollution Control District (APCD) took a major step toward limiting the amount of air pollution emitted during storage and transfer of gasoline into motor vehicle tanks. The APCD required the installation of devices costing thousands of dollars per service station in order to keep gasoline vapors from entering the atmosphere. This program placed the San Diego APCD on a collision course with the major oil companies, each of which would be required to spend millions of dollars on its San Diego County operations.

This impending collision emphasizes the importance of two major issues regarding environmental protection in California. First, the overlapping jurisdictions of the California environmental protection agencies have created enough confusion to diminish the effectiveness of existing air pollution legislation. Federal supervision through the Environmental Protection Agency (EPA) further complicates this jurisdictional confusion. Second, disagreement exists as to the amount of financial burden polluters must bear for pollution control equipment. This issue is compounded when the equipment either does not exist or is so experimental as to be of dubious

1. A California local Air Pollution Control District is divided into three parts paralleling the traditional tripartite federal and state government structure. The legislative branch is the Air Pollution Control Board (APCB) composed of the county board of supervisors who serve ex officio. CAL. HEALTH & S. CODE § 24220 (West 1967). The executive branch is the Air Pollution Control Officer (APCO) appointed by the APCB. Id. §§ 24222, 24228. The judicial branch is the Air Pollution Control Hearing Board (APCHB) composed of one attorney qualified to practice in California, one chemical or mechanical engineer, one member of the medical profession who has specialized in environmental medicine, and two members of the public and also appointed by the APCB. Id. § 24225 (West Supp. 1975).

2. This question can be restated as follows: To what extent should polluters be responsible for the development of air-preserving technology?
effectiveness. This Comment will deal with these two issues as they relate to the controversy in San Diego County over gasoline vapor recovery.

**Statutory Authority for Air Pollution Control**

The Clean Air Act³ requires the Administrator of the EPA to determine national primary and secondary ambient air quality standards⁴ in order to protect the public health and welfare.⁵ Although the Clean Air Act set 1975 as the compliance date for the standards⁶ the Administrator has exercised his authority to extend this date to 1977 for all states meeting the statutory requirements.⁷ The Act places primary responsibility for assuring air quality upon each state by requiring submission of an implementation plan that specifies the manner in which national primary and secondary ambient air quality standards will be achieved and maintained.⁸

In order to comply with federal law, the California legislature requires representatives from each APCD within a natural air basin to formulate a basinwide air pollution control plan.⁹ If adopted by the state, these local plans become part of the state implementation plan which is sent to the EPA for final approval.

**Applicable Ambient Standards**

The EPA Administrator, under authority of the Clean Air Act,¹⁰ has set ambient air quality standards for various types of air pollutants.¹¹ Each implementation plan must break down the dif-

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⁴ Ambient air quality standards are defined as “specified concentrations and durations of pollutants which reflect the relationship between the intensity and composition of pollution to undesirable effects.” CAL. HEALTH & S. CODE § 39008.5 (West 1973).


⁶ Id. § 1857c-5(a) (2) (A) (i).

⁷ Id. § 1857c-5(e).

⁸ Id. § 1857c-2(a).


ferent sources and types of air pollution in order to propose methods of controlling the problem. The EPA establishes a proportional model for determining the necessary percentage reduction for each source and type of pollutant in order to meet the standards.\textsuperscript{12}

According to this model, San Diego County can meet these standards only if: First, hydrocarbon emissions are reduced to an annual average of 36,000 tons; second, carbon monoxide emissions are reduced to an annual average of 309,000 tons; and third, suspended particulate emissions are reduced to an annual average of 21,400 tons.\textsuperscript{13} These figures represent the maximum\textsuperscript{14} allowable emissions for this county if public health standards are to be improved. Although the control of carbon monoxide and particulate emissions are important, this Comment deals primarily with the control of hydrocarbons.

Hydrocarbons are emitted chiefly from vehicles and from the storage and transfer of volatile organic compounds such as gasoline. The San Diego APCD estimates that 86,000 tons of hydrocarbons will be released into the atmosphere over San Diego County in 1975.\textsuperscript{15} This amount is 50,000 tons more than the national standard. Almost 23,000 tons of hydrocarbons are attributable to stationary sources,\textsuperscript{16} 15,880 tons to aircraft sources, and approximately

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\textsuperscript{12} 42 C.F.R. § 420.13(d) (2) (1971) reads as follows:

The proportional model shall be one in which the following equation is employed to calculate the degree of improvement in air quality needed for attainment of a national standard:

\[
\frac{A - C}{A - B} \times 100 = \text{percent reduction needed}
\]

Where:

- \(A\) = Existing air quality at the location having the highest measured or estimated concentration in the region.
- \(B\) = Background concentration.
- \(C\) = National standard.

The plan shall show that the control strategy will result in the degree of emission reduction indicated to be necessary by the proportional model.

\textsuperscript{13} OPERATIONAL PLAN FOR AIR POLLUTION CONTROL IN SAN DIEGO COUNTY 2 (1971). This is the implementation plan for the San Diego air basin.

\textsuperscript{14} The correlation between air pollution and human illness has been recognized since 1930. Several hundred persons were subject to respiratory ailments and sixty-three persons died after a thick fog covered part of the Meuse River Valley in Belgium. For other disasters see Chass \& Feldman, Tears for John Doe, 27 S. CAL. L. REV. 349, 354 (1954). Air pollution is also responsible for damage to livestock and crops. Id. at 355.

\textsuperscript{15} OPERATIONAL PLAN, supra note 13, at 5.

\textsuperscript{16} Stationary sources include facilities for the storage and transfer of volatile organic compounds, volatile organic compound water separators, and organic solvents. Id. at 5-7.
47,800 tons to motor vehicle sources.\textsuperscript{17} Emission tests have shown that a reduction of 11,930 tons of hydrocarbon emissions per year\textsuperscript{18} can be obtained through a modification of jet engine combustion chambers.\textsuperscript{19} It is apparent, however, that state environmental protection agencies must do more than modify jet engines if the 1975 standards are to even be approached.

The Clean Air Act specifically authorizes transportation controls and limitations on land use.\textsuperscript{20} The EPA, for example, has proposed a transportation control plan\textsuperscript{21} for Los Angeles which would require motorcycle controls, parking surcharges, a parking management program, and, as a final resort, extensive gasoline rationing.\textsuperscript{22} The San Diego County APCD, instead of imposing direct transportation controls, has decided to control hydrocarbon emissions by implementing a novel procedure known as vapor recovery.\textsuperscript{23}

The San Diego County APCD was the first environmental protection agency in the nation to require the installation of vapor recovery equipment at all gasoline service stations above a certain size. The agency requires that this equipment recover and dispose of vapors ordinarily lost during the storage and transfer of gasoline,\textsuperscript{24} and the system must have a minimum continuous efficiency of 90 percent by weight of vapor collected.\textsuperscript{25} In addition, the system must be able to collect 99.1 percent of vapors emitted in 90

\begin{itemize}
\item \textsuperscript{17} Id. at 7-9.
\item \textsuperscript{18} Id.
\item \textsuperscript{19} Id.
\item \textsuperscript{21} This plan was initiated as a response to a court order. See City of Riverside v. Ruckelshaus, 4 BNA Envr. Rep. Cas. 1728 (C.D. Cal. 1972).
\item \textsuperscript{22} 38 Fed. Reg. 31232 (1973).
\item \textsuperscript{23} Gasoline vapor collects above the level of the liquid gasoline when stored under normal conditions (as in a motor vehicle gas tank). When the gas tank is filled the liquid gasoline displaces the vapor which escapes into the atmosphere. A vapor recovery system is defined as a vapor gathering system capable of collecting the hydrocarbon vapors and gasses discharged and a vapor disposal system capable of processing such hydrocarbon vapors and gasses so as to prevent their emission to the atmosphere, with all tank gauging and sampling devices gastight except when gauging or sampling is taking place. CAL. HEALTH & S. CODE § 39068.4 (West 1973).
\item \textsuperscript{24} SAN DIEGO COUNTY, CAL., APCD RULES & REGULATIONS, Rule 61, 63 (1974).
\item \textsuperscript{25} Id. Rule 63.
\end{itemize}
percent of the number of vehicles fueled. According to the APCD, compliance with these rules would result in a reduction of over 20 percent of all hydrocarbons emitted into the atmosphere in San Diego County.

The Controversy

Initially the San Diego County APCD endorsed the installation of a vapor displacement or "balance" system as a proper method of complying with the rules. Several major oil companies opposed this system on the grounds that it was prohibitively expensive and scientifically unfeasible. The San Diego APCD eventually conceded that the balance systems would be inadequate in achieving APCD requirements. Nevertheless, the agency decided it was necessary to force the development of vapor systems which would comply with the rules. As a result of this decision, several private developers designed vacuum systems and other equipment which allegedly would meet the APCD requirements. The oil companies argued that the new equipment was twice as expensive as the balance systems and that the necessary technology for compliance with the rules was actually nonexistent or inadequate. The APCD ultimately required the installation of the vacuum systems. The oil companies refused. As the January 1, 1974 dead-

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26. Id.
27. OPERATIONAL PLAN, supra note 13, at 5.
28. The vacuum balance vapor recovery system consists simply of a tight fitting nozzle (to keep the vapors from escaping through the space around the pump nozzle) and a tube (which carries the vapor to the service station’s storage facility). The vapor remains there until a gasoline delivery truck collects it (by the same displacement method) and takes it back to the refinery where it is processed. Vapor is processed either by condensing it back into liquid gasoline or by burning it.
29. Conversation with Tom Wilson, chemical engineer for the San Diego County APCD in San Diego, California, July 8, 1975.
31. The vacuum vapor recovery system is essentially a balance system with two important additions. First, the system uses a vacuum pump to draw the vapor out of the motor vehicle tank rather than relying on displacement. Second, the vapor is processed before it is returned to the service station’s storage facility.
32. The EPA requires the use of a permit system to insure compliance with air pollution laws. 40 C.F.R. § 51.18 (1973). In San Diego County the system is divided into two parts: The Authority to Construct is issued only after the APCO is convinced that the equipment will sufficiently reduce the issuance of air contaminants. The APCO bases his decision on the plans for the equipment which must be submitted by the builder. After construction the APCO may grant a Permit to Operate if he is convinced
line for compliance approached, it became apparent that hundreds of service stations in the county would be in violation of the rules and subject to fines as high as $500 a day for each violation.

Faced with massive noncompliance, the San Diego County Air Pollution Control Board twice extended the compliance date. The APCD eventually granted variances to most of the oil companies and independent service stations, thereby permitting the installation of the inadequate vapor balance system. In fact, the oil companies have agreed to install the balance system although they had previously rejected it as unworkable. The APCD, however, has asserted that the balance system is at best a stop-gap measure and upon expiration of the variances full compliance would be required.

On August 30, 1974, the San Diego Superior Court issued a preliminary injunction, restraining the APCD from enforcing the vapor requirements against Atlantic Richfield Service Stations in San Diego County. Two other oil companies have also filed suit and obtained temporary restraining orders. At stake in these cases is the fate of an air pollution strategy that may define the extent of compliance with national air pollution limits. The outcome of the controversy will affect the rest of the nation.

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33. Of the 849 service stations in San Diego County operated by major oil companies, only 31 received authority to construct and only 3 received a permit to operate a vapor recovery system during 1973. See annual report in 2 Air Pollution Q. at 2 (1973).

34. CAL. HEALTH & S. CODE § 39261 (West 1973). An APCD also has the power to issue an order of abatement, the violation of which can result in a fine as high as $6000 per day. Id. § 39260.

35. See note 1 supra.

36. The extensions were to June 30, 1974 and December 1, 1974.

37. CAL. HEALTH & S. CODE § 24291 et seq. (West Supp. 1975). Variances were granted subject to the condition that the receiver of each variance submit compliance schedules showing in detail how the APCD rules will be met by the time the variance expires. Id. § 24296.

38. There was one significant exception. In July, 1974, Shell Oil Co. announced that in spite of its objections it would develop and install the required vacuum systems at all its service stations.


INTERAGENCY DELAY

The Clean Air Act provides that primary ambient air quality standards be met as expeditiously as practicable, but in no case later than 1975, and that secondary ambient air quality standards be met within a reasonable time. Although the provisions for compliance extensions to 1977 have been exercised, it is apparent that time is the essential element. In spite of the congressional intent to clean the air as quickly as possible, a tri-level administrative structure of environmental regulation has led to delays which make attainment of national health standards uncertain. In the absence of the necessary appropriations enabling the EPA directly to enforce its regulations, every effort should be made to reduce the interagency uncertainty which has deferred the right of the public to breathe clean air. This section will discuss how the structure has become cumbersome and time consuming in California.

ARB vs. APCD

The California Air Pollution Control Districts Act of 1947 originally endowed the county based APCDs with broad powers of control over all sources of air pollution within their boundaries. Only after the expenditure of millions of dollars on the control of stationary source air pollution, and the realization that the air had remained unhealthy, was it discovered that motor vehicles were a significant air pollution source. Although the technological problems at that time were great, California embarked on a program to curb motor vehicle pollution. As other states became interested in controlling emissions through the regulation of new motor vehicles, the automobile industry appealed for uniform regulation. California alone is exempt from the federal government's

42. Id. §§ 1857c-5(e), 1857c-5(f).
43. See Duquesne Light Co. v. EPA, 481 F.2d 1, 3 (1973); S. REP. No. 91-1196, 91st Cong., 2d Sess. (1970).
44. CAL. HEALTH & S. CODE § 24198 et seq. (West 1967).
45. Whenever the air pollution control board finds that the air in the air pollution control district is so polluted as to cause any discomfort or property damage at intervals to a substantial number of inhabitants of the district, the air pollution control board may make and enforce such orders, rules, and regulations as will reduce the amount of air contaminants released within the district. Id. § 24262.
46. See Kennedy, The Legal Aspects of Air Pollution Control With Particular Reference to the County of Los Angeles, 27 S. CAL. L. REV. 373, 374 (1954).
uniform regulations over new motor vehicles because of its prior leadership and stricter regulations in this area.\textsuperscript{49} The Mulford-Carrel Air Resources Act\textsuperscript{50} created the Air Resources Board (ARB) to provide for consistent statewide motor vehicle regulation.\textsuperscript{51} Under Mulford-Carrel, the APCD Act was modified to prohibit APCD regulation over vehicular sources of air pollution.\textsuperscript{52} The Air Resources Board currently has exclusive jurisdiction over vehicular emissions and the APCD regulates nonvehicular or stationary sources of air pollution. For most purposes, the vehicular/nonvehicular distinction provides for a rational distribution of authority between the ARB and the APCDs. In the areas of fuel regulation and vapor recovery, however, the statutory distinction alone has been found insufficient in resolving this jurisdictional issue.

The oil companies have taken advantage of the ARB's disinclination to regulate fuel content and vapor emissions by asserting that the APCDs have no authority to do so.\textsuperscript{53} There are no specific statutory provisions for the regulation of lead content in gasoline or for the installation of vapor recovery devices at service stations. The oil companies have characterized these activities as the control of vehicular sources of air pollution so as to preclude APCD action.\textsuperscript{54} Lead content limitations are designed to minimize a vehicular source of air pollution via regulation of its stationary source origin. Thus, APCD lead regulations may be viewed as an attempt to regulate vehicular sources of air pollution.\textsuperscript{55} Similarly, the Mulford-Carrel Act, in its definitions of "fuel evaporative loss" and "fuel system," implies that the control of any vapor loss from the fuel tank of a motor vehicle is the regulation of a vehicular source

\textsuperscript{49} Id. at 675-76.
\textsuperscript{50} CAL. HEALTH & S. CODE § 39000 et seq. (West 1973).
\textsuperscript{51} Id. § 39012.
\textsuperscript{52} See, e.g., id. §§ 24224, 24260 (West Supp. 1975).
\textsuperscript{53} Compare Memorandum of Points and Authorities in Support of Atlantic Richfield Company's Motion for a Stay Pending Final Judgment and a Preliminary Injunction in Atlantic Richfield Co. v. APCD of San Diego County, No. 356319 (Super. Ct., San Diego County, filed July 29, 1974), with Amici Curiae Brief of the California Attorney General and Air Resources, Board in Support of Respondent San Diego Air Pollution Control District, id.
\textsuperscript{54} See, e.g., Atlantic Richfield Memorandum 25, supra note 53.
\textsuperscript{55} See Western Oil & Gas Ass'n v. Orange County APCD, 14 Cal. 3d 411, 414, 534 P.2d 1329, 1330, 121 Cal. Rptr. 249, 250 (1975).
of air pollution.\textsuperscript{66} The Mulford-Carrel Act clearly appears to grant the ARB exclusive authority to regulate vehicular sources of air pollution. Its declaration of policy states the necessity for providing statewide motor vehicle emission standards.\textsuperscript{67} Other provisions support this policy: “Local and regional authorities have the primary responsibility for the control of air pollution except for the emissions from motor vehicles. These authorities may control emissions from nonvehicular sources. . . .”\textsuperscript{68} This line of reasoning supports the conclusion that only the ARB may regulate fuel content and vapor recovery.

Local APCDs have attempted to construe the Air Pollution Control Act and the Mulford-Carrel Act so as to avoid the vehicular/nonvehicular distinction. The argument for exclusive APCD authority assumes that the Air Pollution Control Act granted the APCDs broad police powers\textsuperscript{59} for the protection of the public from the adverse effects of air pollution.\textsuperscript{60} The ARB, on the other hand, acquired only that authority expressed in the Mulford-Carrel Act. Because the Mulford-Carrel Act provides only for ARB regulation of gasoline volatility and unsaturation\textsuperscript{61} and for installation of vapor recovery devices on automobiles,\textsuperscript{62} the argument concludes that the APCDs must have the residual authority to regulate fuel lead content and to require the installation of vapor recovery devices on gasoline pumps.\textsuperscript{63} This argument will ultimately be re-

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\item 56. “Fuel evaporative loss” is defined as “vaporized fuel emitted into the atmosphere from the fuel system of a motor vehicle.” \textsc{Cal. Health \\& S. Code} § 39088 (West 1973). “Fuel System” is defined as “the combination of fuel tank, fuel lines, and carburetor, or fuel injector, and includes all vents and fuel evaporative emission control systems or devices.” Id. § 39089. The only other motor vehicle emissions defined are “crankcase emissions” and “exhaust emissions.” Id. §§ 39086, 39087.
\item 57. Id. § 39011. APCDs have only two specific powers to control motor vehicle emissions. First, they may establish performance standards for air pollution control equipment designed for installation on motor vehicles and prohibit the sale or installation of any equipment which fails to meet these standards. Id. § 24263.7 (West 1967). Second, they may require the installation of devices to control the emissions from the crankcase and exhaust of cars manufactured between 1955 and 1965 if such devices are certified or accredited by the State ARB. Id. § 24263.8 (West Supp. 1975).
\item 58. Id. § 39012 (West 1973).
\item 59. See \textsc{6 E. McQuillan, Municipal Corporations 444} (3d ed. 1969) (police powers in general).
\item 60. See note 45 supra.
\item 61. \textsc{Cal. Health \\& S. Code} §§ 39051.1, 39051.2 (West 1973).
\item 62. Id. §§ 39093-94, 39108.
\item 63. See \textsc{Western Oil \\& Gas Ass'n v. Orange County APCD, 14 Cal. 3d 411, 416, 534 P.2d 1329, 1331-32, 121 Cal. Rptr. 249, 251-52 (1975)}; ARB Brief 9-10, supra note 53.
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jected because there is no compelling reason to construe the ARB's powers so narrowly.\textsuperscript{64}

Until recently the California courts have consistently followed neither rationale resulting in a lapse of fuel content regulation over the past four years. In \textit{Environmental Defense Fund v. California Air Resources Board},\textsuperscript{65} the court found that the ARB's "power to set emission standards is limited to devices or modifications that are part of a vehicle's engine structure and does not include the power to regulate fuel composition. . ."\textsuperscript{66} Conversely, the appellate court in \textit{Western Oil and Gas Association v. Orange County Air Pollution Control District}\textsuperscript{67} held that the APCD did not have the authority, even indirectly, to regulate the lead emissions from motor vehicles.\textsuperscript{68}

Fortunately, the California Supreme Court, in upholding the \textit{Western Oil} decision,\textsuperscript{69} finally ended the uncertainty by formally disapproving the \textit{Environmental Defense Fund} decision. Although the court confirmed the utility of the vehicular/nonvehicular distinction, it also indicated that other considerations were equally applicable.

We conclude . . . that in the light of \textit{practical considerations}, the purposes of the Mulford-Carrel Act, and the provisions of that act, the Legislature intended to accord that power [fuel regulation] to the ARB.\textsuperscript{70}

In holding that the ARB necessarily has the authority to regulate what goes into gasoline in order to regulate what comes out of motor vehicles, the court took the first step toward recognizing that not all sources of pollutants may be characterized as exclusively

\textsuperscript{64} See generally \textit{United States v. Southwestern Cable Co.}, 392 U.S. 157 (1968) (FCC may regulate cable television even though cable television did not exist when the FCC was chartered); \textit{Ralph's Grocery Store v. Reimel}, 69 Cal. 2d 172, 444 P.2d 79, 70 Cal. Rptr. 407 (1968).

\textsuperscript{65} 30 Cal. App. 3d 829, 106 Cal. Rptr. 598 (1973).

\textsuperscript{66} Id. at 834, 106 Cal. Rptr. at 601.


\textsuperscript{68} Id.

\textsuperscript{69} \textit{Western Oil & Gas Ass'n v. Orange County APCD}, 14 Cal. 3d 411, 534 P.2d 1329, 121 Cal. Rptr. 249 (1975).

\textsuperscript{70} Id. at 415, 534 P.2d at 1331, 121 Cal. Rptr. at 251 (emphasis added). The practical considerations discussed related to the inability of pre-1970 cars to use unleaded fuel. \textit{Id.} at 417-18 n.6, 534 P.2d at 1332 n.6, 121 Cal. Rptr. at 252 n.6.
vehicular or nonvehicular. Although fuel regulation is aimed at controlling motor vehicle emissions, it is a direct control of oil refineries which can only be considered as stationary sources of air pollution. Similarly, the hydrocarbons collected during vapor recovery are equally attributable to the stationary gasoline pump which displaces them as to the automobile gas tank which stores them. Because of this dual nature, emphasis should be placed on practical considerations and the purpose behind the Mulford-Carrel Act to make a rational division of authority.

Gasoline marketing should be viewed as a continuous operation. Control of the loss of vapors during gasoline marketing operations may occur at four stages: 1) The bulk storage terminal; 2) the loading and unloading of the transport tanker truck; 3) the service station storage tank; and 4) the transfer of fuel to motor vehicles. The APCDs have specific authority to regulate vapor loss during the first three stages and the practical effect of having the ARB regulate the fourth stage would be to divide control over gasoline marketing operations between the APCDs and the ARB. In Western Oil, the court used an analogous argument against such division of authority.

[T]he ARB has been authorized by the Legislature to regulate the composition of gasoline in two specific respects ... and without some solid basis compelling us to hold that the Legislature intended to divide authority over fuel content between the districts [APCDs] and the ARB, we should not presume such an intent. Because there is no compelling reason for a division of authority in the regulation of vapor loss, the APCDs should be able to require vapor recovery.

The purpose behind the vehicular/nonvehicular distinction in the Mulford-Carrel Act is to avoid conflicting regulatory requirements for automobile emission equipment. A local rule requiring the installation of air pollution devices on motor vehicles would be ineffective as an air pollution strategy because motor vehicles are not restricted to intracounty travel. Vapor emissions occurring during the fueling process, however, are strictly a local phenomenon, occurring only at gasoline service stations. Thus, APCD regulation of vapor recovery during the fueling process is consistent with the purpose of the Mulford-Carrel Act.

The time needed to produce and install vapor recovery units adds a note of urgency to a determination in favor of the APCDs. Be-

71. See note 23 supra.
73. Western Oil & Gas Ass'n v. Orange County APCD, 14 Cal. 3d 411, 417, 534 P.2d 1329, 1332, 121 Cal. Rptr. 249, 252 (1975).
cause of oil company resistance, only a few companies have developed the necessary equipment. They will produce only small quantities of this equipment as long as the fate of the San Diego APCD vapor recovery rules remains uncertain. Even if enough of the devices were currently available, it takes approximately one week per service station for installation. Whether the goal is to meet national health standards by 1977 or later, expedient implementation of the vapor recovery rules is necessary. The uncertainty over which agency has the authority to require vapor recovery may result in a considerable loss of time. Although the arguments favor APCD jurisdiction, both agencies should exercise their authority in the vapor recovery area to avoid further delay.

**EPA Regulation**

Further time-consuming complications arise because of the ambiguous relationship between state and federal enforcement of the Clean Air Act. Congress has placed the primary responsibility for enforcement of national health standards on the states by requiring state implementation plans. Each plan must demonstrate how the state intends to achieve and maintain national standards and must include assurances that the state will provide adequate personnel and funds to accomplish these objectives. The EPA

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74. Conversation with Tom Wilson, chemical engineer for the San Diego County APCD, in San Diego, California, July 8, 1975.
75. San Diego County APCD Comments on Gasoline Vapor Control at 31 (issued by EPA 1974).
76. See text accompanying notes 10-19 supra.
77. Presumably the oil companies will attack ARB authority next. Telephone conversation with Rich Sommerville, Assistant Air Pollution Control Officer for the San Diego County APCD, Oct. 15, 1975.
78. The ARB may act if an APCD does not.
80. Id.
81. Id.
82. It is interesting to note that Congress expected the states to bear most of the administrative expenses of cleaning the air.
Administrator has the affirmative duty to disapprove all or part of each state plan which does not meet the requirements of the Clean Air Act. Although the Administrator must promulgate substitute provisions for those disapproved sections of the state plans, there is no mechanism in the Clean Air Act by which he can compel the states to enforce either the parts he approved or his substitutions. Under these circumstances the EPA would have to rely upon its concurrent authority to enforce the state implementation plans. The problem is that Congress has not appropriated the necessary funds for EPA enforcement on the local level. In the light of this current federal funding practice, prompt enforcement activity would be impractical.

If the EPA decides to enforce its regulations in some local areas, it may be delayed by state court rulings. The Clean Air Act provides for judicial review if the action is brought within 30 days of the promulgation of the EPA's substitute implementation plan, but does not contain the necessary language to require that adjudicatory or legislative-type hearings be held.

In Getty Oil v. Ruckelshaus, the petitioner obtained an injunction forestalling state enforcement of a rule prohibiting certain utilities from burning high sulfur fuel. While the petitioner sought an administrative appeal, the EPA commenced enforcement proceedings. The petitioner brought this action to restrain the EPA pending its appeal. The federal court refused to grant an injunction on the ground that the petitioner had not brought the action within the 30-day time limit set by the Clean Air Act.

In Duquesne Light Co. v. EPA, however, the petitioner filed

84. Id. § 1857c-5(a) (2).
85. Id. § 1857c-5(c).
86. The EPA may put pressure on the states by threatening to cut off federal funds granted for the support of air pollution planning and control programs. Id. § 1857c(b).
87. The EPA may issue compliance orders or bring civil actions against any person in violation of an approved state implementation plan. Id. § 1857c-8.
88. The actual increase in EPA's budget for 1975 is only three percent over 1974 which does not even keep pace with inflation. Ayres, Enforcement of Air Pollution Controls on Stationary Sources under the Clean Air Amendments of 1970, 4 Ecology L.Q. 441, 465 n.75 (1975).
90. Texas v. EPA, 499 F.2d 289, 296 (5th Cir. 1974).
92. Id.
93. Id.
94. Id. at 357-58 n.14.
95. 481 F.2d 1 (2d Cir. 1973).
within the 30-day period and was granted a delay in EPA action.

'To expose the companies to the risk of punishment without affording them full occasion to express their objections to the state implementation plan is fundamentally unfair. Therefore, this Court instructs the EPA that it must either (a) refrain from imposing any penalties on these companies during the pendency of their state administrative and judicial actions, so long as such actions are pursued by the companies in good faith and with due diligence, or (b) afford the companies a limited legislative hearing.96

This federal-state interagency delay is significant in the area of vapor recovery because the EPA has recently announced that 37,000 service stations in eight metropolitan areas of the country will be expected to install vacuum vapor recovery systems by 1977.97 Because of the Duquesne Light decision and the necessary production and installation periods, further delay can be expected.

FORCING TECHNOLOGY

The concept of forcing technology was introduced into the Clean Air Act to place protection of the public health above economic considerations.

The protection of the public health . . . will require major action throughout the Nation. Many facilities will require major investments in new technology and new processes. Some facilities will need altered operating procedures or a change of fuels. Some facilities may be closed.

. . . .

The Administrator is expected to press for the development and application of improved technology rather than be limited by that which exists. In other words, standards should be a function of the degree of control required, not the degree of technology available today.98

Because air pollution technology was not sufficiently developed to meet the goals of clean air, two99 responses were required. First,

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96. Id. at 10 (emphasis by the court).
97. See text accompanying notes 151-55 infra.
99. A third method was available until the court in Sierra Club v. Ruckeshaus, 344 F. Supp. 253, 256 (D.D.C. 1972), issued an injunction prohibiting the EPA from approving state implementation plans "which allow pollution levels of clean air to rise to the secondary standard level of pollution . . . ."

Except for this policy of nondegradation a state could attempt to redistrib-
the development of emission controls was emphasized through federally funded research programs and by setting strict compliance dates for achieving emission standards. The threat of closing noncomplying facilities should have been an incentive for industry to provide sufficient investments to develop the requisite technology. Second, the adoption of land use and transportation controls was authorized to meet the compliance dates should the current emission controls prove insufficient. The threat of separating Americans from their automobiles should have been an added incentive for transportation related industries to solve the pollution problems of their products. As discussed below, industry has not contributed significantly to the development of emission controls. Congress has compounded this industrial foot-dragging by granting extensions instead of imposing sanctions for noncompliance.

The strategy of forced technology has clearly lost its impetus. The courts are currently deciding the fate of forced technology in the area of vapor recovery. This section will discuss the resistance to the strategy with an emphasis on the ability of the courts to affect this policy.

Resistance to Land Use and Transportation Controls

Land use and transportation controls are methods of curtailing the use of pollution emitting sources. Most of these controls are intended to create disincentives to the excessive use of automobiles through the regulation of complex sources of emissions. The EPA has defined a complex source of emissions as "a facility that has or leads to secondary or adjunctive activity which emits or may emit a pollutant for which there is a national standard." Ex-
amples of complex sources are shopping centers, sports arenas, drive-in theatres, parking lots and garages.\textsuperscript{106} Although these facilities actually emit little pollution, the associated motor vehicle pollution is significant.\textsuperscript{107} In addition, the EPA has suggested that the establishment of bus and car pool lanes, reductions in off-street parking, limitations on motorcycles, parking surcharges and the prevention of further increases in gasoline consumption may also be necessary.\textsuperscript{108} The authority for such controls can be found in the Clean Air Act itself. The Act requires that state implementation plans include emission limitations, schedules, and timetables for compliance with such limitations, and such other measures as may be necessary to insure attainment and maintenance of such primary or secondary standards, including but not limited to, land use and transportation controls...\textsuperscript{109}

There has been frequent litigation over when such controls may be required.\textsuperscript{110} There has also been a serious deterioration of congressional intent in allowing the EPA to implement drastic societal transformation in the name of clean air. The Energy Supply and Environmental Coordination Act (ESECA),\textsuperscript{111} purportedly enacted to provide for conservation of our country's energy resources, specifically prohibits the EPA from requiring the imposition of parking surcharges without explicit congressional approval.\textsuperscript{112} The House of Representatives attempted to include a special provision in EPA's appropriation bill forbidding EPA from requiring parking surcharges or otherwise regulating parking facilities.\textsuperscript{113} Although that provision did not appear in the bill as passed, it is indicative of a growing dissatisfaction with the use of transportation controls to meet the requirements of the Clean Air Act.

\begin{footnotes}
\textsuperscript{106} Id. at 6279-80.
\textsuperscript{107} Id.
\textsuperscript{110} See note 108 \textit{supra}.
\textsuperscript{112} 42 U.S.C.A. § 1857c-5(c) (2) (B) (Supp. 1975). Since disincentives to use motor vehicles would result in an energy saving as well as a reduction in the level of air pollution it is difficult to reconcile this provision with the purpose of ESECA.
\end{footnotes}
Resistance to Emission Controls

Since the late 1960s, state and local air pollution agencies have compelled utilities to reduce their contribution to air pollution.\(^ {114} \) Instead of installing flue gas desulfurization equipment to clean the smokestack emissions before reaching the atmosphere, the utilities converted from coal to burning less polluting fuels such as oil and gas.\(^ {115} \) Even as it became apparent that the world's oil and gas resources were not limitless, privately owned utilities conducted little research into methods of burning coal cleanly.\(^ {116} \) The utility industry demanded unreasonable and unprecedented guarantees from the private developers of emission control equipment.\(^ {117} \) After the oil embargo,\(^ {118} \) demands for reconversion of power plants to coal become widespread, but there was no longer enough time to meet the compliance dates of the Clean Air Act through emission controls. Congress reacted by extending the Clean Air Act deadlines to 1978 for power plants converting to coal.\(^ {119} \)

Resistance to pollution technology has not been confined to the utility industry. The bulk of air pollution in dispersed metropolitan areas such as Los Angeles and San Diego is attributable to motor vehicle exhaust emissions.\(^ {120} \) All 1975 and later model automobiles were supposed to meet 1975 emission standards through the use of catalytic converters.\(^ {121} \) The largest automobile manufacturers, however, applied for the one-year suspension\(^ {122} \) provided for in the Clean Air Act.\(^ {123} \) As a result, the EPA set interim

\(^ {114} \) Pollution from utilities consists of mostly sulfur oxides.
\(^ {115} \) At that time conversion to oil or gas was cheaper than the installation of such equipment. Now that the prices of oil and gas are rising the installation of flue gas desulfurization equipment may become more attractive.
\(^ {116} \) EPA, REPORT OF THE HEARING PANEL, NATIONAL PUBLIC HEARINGS ON POWER PLANT COMPLIANCE WITH SULFUR DIOXIDE AIR POLLUTION REGULATIONS 26 (1974).
\(^ {117} \) Id. at 45-46.
\(^ {118} \) This action by the Organization of Petroleum Exporting Countries can be expected to affect air pollution policies far into the future.
\(^ {119} \) 42 U.S.C.A. § 1857c-10(c) (2) (C) (Supp. 1975).
\(^ {120} \) 38 Fed. Reg. 31239 (1973).
\(^ {122} \) The companies were Volvo, Chrysler, General Motors, Ford, and International Harvester.
\(^ {123} \) 42 U.S.C. § 1857f-1 (b) (5) (1970). The EPA originally rejected the applications but was overruled by the court in International Harvester v. Ruckelshaus, 478 F.2d 615 (D.C. Cir. 1973). The auto industry succeeded in persuading the court to take possible economic hardships into consideration. Id. at 641.
standards and required that catalytic converters be included only on new cars sold in California.\textsuperscript{124}

The pressure on Congress caused by the energy crisis had its effect on motor vehicle emission compliance dates as well as those of stationary source emissions. ESECA amended the Clean Air Act so as to suspend its original hydrocarbon and carbon monoxide emission requirements for 1977 model year automobiles.\textsuperscript{125} The motivation behind these provisions of ESECA could not have been solely the conservation of energy resources. The House Interstate and Foreign Commerce Committee Report on ESECA stated that adverse fuel economy would deter consumer purchasing of new automobiles resulting in greater retention of old automobiles with inefficient pollution control devices. . . . [T]his might lead to a situation whereby denial of a suspension would result in greater total actual emissions of all cars in use than would be the case if a suspension were authorized.\textsuperscript{126}

This rationale is in conflict, however, with announcements by General Motors, made several months earlier, to the effect that fuel economy gains of 20 percent could be expected over 1974 autos due to the installation of catalytic converters.\textsuperscript{127}

\textit{Judicial Influence}

The courts are reviewing the San Diego APCD's technology-forcing activities. Most of the oil companies are willing to install versions of the vapor balance system.\textsuperscript{128} The San Diego APCD has determined that the balance system cannot meet the 90 percent recovery requirements and that the oil companies must install the more expensive vacuum systems.\textsuperscript{129} To reach this conclusion the

\begin{footnotesize}
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\item \textsuperscript{124} 38 Fed. Reg. 22474 (1973).
\item \textsuperscript{125} 42 U.S.C.A. § 1857f-1 (b) (1) (A) (Supp. 1975).
\item \textsuperscript{126} H.R. REP. No. 93-1013, 93d Cong., 2d Sess. 12 (1974).
\item \textsuperscript{128} See text accompanying notes 28-40 supra.
\item \textsuperscript{129} The vapor balance system has many factors working against it. Since this system works on the principle of forced displacement the vapor
\end{itemize}
\end{footnotesize}
APCD had to make findings of fact that the vacuum systems would be significantly more effective than the balance systems and that the vacuum systems were technologically feasible.\textsuperscript{130} The oil companies dispute both these findings and maintain that an installation requirement for vacuum systems is an unwarranted exercise of police power.\textsuperscript{131}

Because the vacuum systems still have technical and safety problems,\textsuperscript{132} the applicable scope of review of the APCD’s findings may be determinative. The federal courts have traditionally adhered to the theory of limited agency review.\textsuperscript{133} The California courts, however, have indicated that they will exercise greater supervision over agency findings of fact.\textsuperscript{134} These different standards of review will take the path of least resistance. For the following reasons the path of least resistance is rarely through the vapor recovery system and back into the storage tank: 1) The lengths of piping leading from the nozzle back to the storage tank create resistance to the passage of the vapor. 2) Gasoline composition, agitation during fueling, differences in temperature between the storage and the motor vehicle tank, and seasonable changes in gasoline volatility combine to create a greater volume of vapor than the volume of liquid added during the fueling process. This excess vapor will either escape through the vent in the storage tank or will create a greater pressure there than in the motor vehicle tank.

Besides through the balance system there are three other possible vapor paths which provide less resistance: 1) The gasoline tanks of a majority of the vehicles currently on the road have open vents leading to the outside. If pressure in the storage tank is great enough vapor will escape through these vents during fueling. 2) Greater pressure in the system than in the atmosphere inevitably produces leaks in the system. 3) A gap between the nozzle and the tank fill pipe of 1/32 inch or more will result in most of the vapor being lost. The degree of fit at the tank/nozzle interface represents the greatest engineering problem. The disparate designs for gasoline tank fill pipes make attainment of a tight fit very difficult. There has been little effort to standardize fill pipe designs by automobile manufacturers.

Barnard R. McEntire, Air Pollution Engineer, San Diego County APCD, \textit{Problems of Hydrocarbon Emissions from Service Stations} (1973); San Diego County APCD Comments on Gasoline Vapor Control at 3-7 (issued by EPA 1974).

130. The APCD had already found that 90 percent recovery of hydrocarbons during the fueling process would be necessary to approach the ambient air quality standards set by EPA. \textit{See} text accompanying notes 11-29 supra.

131. \textit{See}, e.g., Atlantic Richfield Memorandum, \textit{supra} note 53.

132. Because the vacuum systems are more complex than the balance systems they are subject to more frequent breakdowns. There is also the possibility that the vacuum systems will draw in too much air thereby creating an explosive mixture of gasoline vapors and oxygen.


134. \textit{See}, e.g., Bixby v. Pierno, 4 Cal. 3d 130, 481 P.2d 242, 93 Cal. Rptr. 234 (1971).
view may cause inconsistent results between federal and state courts on the vapor recovery issue.

If the EPA threatens enforcement for failure to install vacuum systems, the oil companies will have to challenge this action in federal court. In this situation, the courts have used the review standard applied by the Supreme Court in Citizens to Preserve Overton Park v. Volpe. A reviewing court shall not set aside an agency finding unless "the actual choice made [by the agency] was . . . 'arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law.'" The Court in Overton Park explained what such a ruling involved.

To make this finding the court must consider whether the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment. Although this inquiry into the facts is to be searching and careful, the ultimate standard of review is a narrow one. The court is not empowered to substitute its judgment for that of the agency.

As long as the agency’s conclusions of availability of requisite technology are founded on supportable data and methodology and meet minimal standards of rationality, the court will not substitute its judgment for that of the agency.

In the California courts, where several actions challenging the APCD are pending, agency review is less restricted. Generally, in reviewing the decisions of a local administrative agency the trial court’s inquiry is confined to determining whether there was substantial evidence before the agency to support its findings. In Bixby v. Pierno, however, the California Supreme Court held that a court must conduct a full and independent review of a case

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135. 42 U.S.C. § 1857h-5(b) (1970). The action must be brought within 30 days of the date of the promulgation or approval of the state implementation plan. See text accompanying notes 93-101 supra.
139. See South Terminal Corp. v. EPA, 504 F.2d 646, 655 (1st Cir. 1974).
140. See, e.g., Sunset Amusement Co. v. Board of Police Comm’rs, 7 Cal. 3d 64, 76, 496 F.2d 840, 847, 101 Cal. Rptr. 768, 775 (1972).
141. 4 Cal. 3d 139, 481 F.2d 242, 93 Cal. Rptr. 234 (1971).
If action by an administrative agency affects a "fundamental vested right."  

In determining whether the right is fundamental the courts do not alone weigh the economic aspect of it, but the effect of it in human terms and the importance of it to the individual in the life situation. 

This broad language was applied in Strumsky v. San Diego County Employees Retirement Association to determine that the right to receive a more lucrative survivor allowance than awarded was fundamental and vested. Although the independent judgment rule as used in Strumsky has been applied primarily in cases involving continuation of public employment, and the right of a probationary teacher to be rehired, there is no reason to limit application to these situations. The Bixby court implied that deprivation of livelihood or property would involve a fundamental right. At least one court has used the Bixby and Strumsky decisions to conclude that a property owner has a fundamental vested right in his property and that the creation of a new assessment district substantially affects that right. Since noncomplying service stations can be closed, it is arguable that the enforcement of the APCD's rules infringes fundamental vested rights belonging to the oil companies. 

If a California court applies the independent judgment rules in the vapor recovery situation, it may find that the technology is not sufficiently developed to require installation of the vacuum systems. The court should take note, however, that any fundamental vested right possessed by the oil companies should be balanced against the right of the public to breathe clean air. The oil

142. Id. at 144, 481 P.2d at 252, 93 Cal. Rptr. at 244. 
143. Id. 
145. Id. at 45, 520 P.2d at 40-41, 112 Cal. Rptr. at 816-17. 
150. See note 132 supra.
companies have had three years to develop vapor recovery systems capable of meeting the APCD's recovery requirements. Since several developers now produce limited quantities of vacuum systems the technological problems involved cannot be insurmountable. Agency actions cannot effectively force technology if they can be avoided. Because of the congressional mandate to clean the air as quickly as possible the courts and other agencies should support these actions.

EPA Revisited

On October 9, 1975, the EPA followed the lead of the San Diego APCD and implemented vapor recovery requirements for ten metropolitan air basins.151 These rules virtually assure that the vacuum systems will be installed in at least 56 percent of the service stations in these areas.152 Although the rules do not directly affect the San Diego area, they demonstrate EPA's support and emphasize the necessity for vapor recovery.

The San Diego APCD set standards which required the development of new technology. The APCD allowed adequate lead time to accomplish this goal and provided sanctions for failure to comply or to contribute to the development of the necessary technology. The reluctance of private developers to mass produce equipment which may never be used has contributed to successful resistance to the APCD rules. The EPA announcement should eliminate developer reluctance by creating a large market for vacuum systems. Developers now have the opportunity to produce vacuum systems with relative assurance that they will be sold. The EPA rules

152. 40 Fed. Reg. 47688 (1975); L.A. Times, Oct. 7, 1975, § 2, at 6, col. 1. The EPA rules divide gasoline service stations into three categories. Stations pumping 30,000 gallons or more per month must install devices capable of 90 percent efficiency. Stations pumping between 10,000 and 30,000 gallons must install devices of 80 percent efficiency. Smaller stations are exempt from the rules. Installation must be complete by 1977. The explanation of the regulations by the EPA administrator indicates that only the vacuum systems have the potential for 90 percent efficiency. 40 Fed. Reg. 47688 (1975).
should also lessen the political pressure placed on the legislative section of the APCD, the San Diego County Board of Supervisors. The EPA announced the new rules at a press conference in San Diego to put the oil companies on notice that it supported the San Diego APCD's actions and that it expected other communities to follow suit.\textsuperscript{153}

In many areas every available method must be used to control hydrocarbon emissions in order to meet the 1977 deadlines.\textsuperscript{154} The primary consideration behind the setting of standards must be the achievement of the health-based primary ambient air quality standards.\textsuperscript{155}

**Conclusion**

In 1970 Congress finally recognized the urgent need for clean air and endorsed the concept of forcing technology. The supporters of the Clean Air Act, however, did not foresee industry-wide resistance to the development of environment saving technology. In the area of vapor recovery the resistance has taken two forms. First, the oil companies refused to comply with the APCD rules. Second, when sanctions appeared imminent the oil companies challenged the APCD's authority and technology-forcing actions in the courts. Although recent EPA actions make implementation of vapor recovery in several major cities fairly certain, the courts will initially decide how long such implementation will take and the degree of vapor recovery required. There has been too little change, however, in our air quality since 1970 to justify the delay of any significant air pollution strategy. Thus, the San Diego APCD rules to force the development and implementation of effective vapor recovery equipment should be upheld.

Michael F. Walsh

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\textsuperscript{155} Id.