Hard Habits to Break: Information and Mutual Mistrust in the Regulation of Corporate Polluters

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HARD HABITS TO BREAK: INFORMATION AND MUTUAL MISTRUST IN THE REGULATION OF CORPORATE POLLUTERS

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"Nam et ipsa scientia potestas est." [Knowledge is power.]
Sir Francis Bacon, Meditationes Sacrae De Haeresibus, 1597.

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I. INTRODUCTION

Knowledge is the most fundamental element of successful pollution control. At the outset, accurate information regarding pollution's threat to social welfare is necessary to identify the need for, and generate interest in, regulation.¹ It is, therefore, imperative that knowledge concerning pollution behavior is available before appropriate regulations can be developed. However, the role of accurate information is often understated or ignored in theoretical discussions. It is important to understand how information, or the lack thereof, has affected past regulatory schemes, hinders present regimes, and suggests future alternatives. This paper assesses the role of information in the regulation of corporate polluting practices.²

Despite the emergence of a significant body of regulatory theory, which criticizes and poses alternatives to the adversarial regulation of corporate actors,³ the history of American environmental regulation is

1. Often the level of pollution of a given type must reach crisis proportions before it is addressed. See CYNTHIA H. ENLOE, THE POLITICS OF POLLUTION IN A COMPARATIVE PERSPECTIVE 24-26 (1975). Despite a long history of smoke-filled air, Britain did not pass its Clean Air Act until well after the "smog" incident of 1952, during which a temperature inversion caused soot from a variety of sources to cast a pall of significant proportions over London's skyline. Public outcry to initial government inaction occurred only after the release of statistics linking illness and fatalities to the incident. Similarly, the now widely publicized problem of smog in the Los Angeles metropolitan area was attacked by local regulation after Californians took stock of recurring "smog episodes" in the post-World War II period. See Errol Meidinger, Marketing Pollution: The Social Construction of "Emissions Trading" in U.S. Air Pollution Regulation, [hereinafter Marketing Pollution] (1990) (unpublished manuscript, on file with the Buffalo Environmental Law Journal). Crises act as catalyzing events which match perceived threats to the environment with societal values of public and environmental health, helping environmental problems receive political attention or "issueness." ENLOE, supra at 12-13.

2. Municipal polluters are governmental instruments and are presumably bound to act in the public interest. Therefore, governmental polluters present different theoretical problems to the regulator than corporate polluters. Historically, municipal polluters have been given various immunities from liability and exemptions from regulations to avoid placing municipalities in financial jeopardy or administrative deadlock. These two differences between public and private polluters introduce complexities which are beyond the scope of this paper.

largely a saga of repeatedly ineffective "command and control" regulation. Regulation has hitherto been premised on ingrained conceptions of a corporation as a one dimensional actor seeking to maximize profits and cannot be trusted to be truthful about its operations and its harmful effects on society. While the Toxic Substance Control Act of 1976 reflects a departure from the rigid distrust of corporate behavior embodied in earlier statutes, it is unlikely that the United States will stray far from the classic command and control model of environmental regulation to one that includes greater cooperation. These beliefs about the proper relationship between the government and the private sector have ramifications for both command-centered and cooperative regulatory regimes.

II. THE IMPORTANCE OF ACCURATE INFORMATION TO COOPERATIVE AND ADVERSARIAL THEORIES OF REGULATION

While the methods of pollution control are no longer viewed as a limited choice between command and control and cooperative regulations, the various theories of regulation seem to fit onto a


5. RESPONSIVE REGULATION, supra note 3, at 21.

6. Distrust of corporate management has been met with disclosure rights and duties of management-to-board and management-to-stockholder. Presumably greater information about managers' behavior in the hands of an independent or at least skeptical board of directors will help prevent fraud. See Alfred F. Conard, Reflections on Public Interest Directors, 75 MICH. L. REV. 941, 959-60 (1977); cf. LEWIS D. SOLOMON ET AL., CORPORATIONS: LAW AND POLICY 295-301 (1988) (discussing a shareholder's right of inspection of business records in part to prevent the dissipation of corporate assets through fraud or mismanagement).


8. See RESPONSIVE REGULATION, supra note 3, at 20-30 (discussing "responsive regulation" or regulatory schemes under which regulators are allowed flexibility to apply highly graduated punishments to higher levels of noncompliance); THEORETICAL PERSPECTIVES, supra note 3, pt. I, at 2-4 (discussing the regulation of corporate
continuum between these two extremes. These newer models all contain elements of coercion and cooperative trust which reflect assumptions about the information available to both the regulator and the regulatee under those models.9

A. Informational Assumptions of Deterrence Theory

The classic command and control model rests on a deterrence theory—a fundamental assumption that compliance with set environmental policy is promoted when the costs of noncompliance to the corporate actor exceed the benefits derived from noncompliance.10 Prohibited polluting behavior to be deterred by civil fines11 and possible criminal sanctions,12 which would raise the costs of violating these prohibitions beyond the value of the conceivable benefits (i.e., cheaper production through the exploitation of environmental resources). This cost-benefit mechanism can be successful only if accurate information is available to the regulator and the regulatee.

In order to create a realistic deterrent to undesirable corporate behavior, the regulator must have an accurate view of the regulatee's cost structure. The level of fines or criminal sanctions must be high

9. See generally Responsive Regulation, supra note 3; Theoretical Perspectives, supra note 3.


12. These are generally applied only for willful violations of pollution restrictions or reporting requirements. See 33 U.S.C. § 1319(c). However, criminal sanctions are infrequently applied pursuant to the statutes which authorize them. See David McN. Olds et al., Thoughts on the Role of Penalties in the Enforcement of the Clean Air and Clean Water Acts, 17 Duq. L. Rev. 1, 26 (1978-1979).
enough to affect the life blood of a corporation, the balance sheet. If penalties are too low in relation to the net benefits of noncompliance, pollution fines will be "expensed" or budgeted as the price of the polluting behavior. Similarly, the regulated polluter must have information regarding the likelihood of enforcement in order to plan its behavior. In order for the optimal amount of regulation to occur, this likelihood of punishment must be proportional to the actual risk of harm to society of the prohibited behavior.

B. The Role of Accurate Information in Cooperative Regulation

Authors Ian Ayres and John Braithwaite propose several alternative models to command and control legislation under the general rubric of "responsive regulation." Specifically, Ayres and Braithwaite recommend responsive "tit-for-tat" (TFT) enforcement, tripartism, and enforced self-regulation as possible alternatives to deterrence-based regulation. Each of these theories contain assumptions which render them dependent on the accuracy of information available to all parties involved.

TFT enforcement is a synergy of punishment and persuasion under which strategic use of punitive sanctions increases the persuasive weight of recommendations for corporate behavior. Persuasion legitimatizes and lends an aura of fairness to the use of sanctions to deter future

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13. See Responsive Regulation, supra note 3, at 19, 43-46 (discussing the need for forceful and credible punishment which is only rarely applied).

14. See GUNther Stephen, Pollution Control, Economic Adjustment and Long-Run Equilibrium 9 (1989). It may also be possible that a firm may take advantage of poorly tailored regulations and methods of damage measurement to achieve large economic benefits from polluting and pay a grossly underestimated punishment fee. See Responsive Regulation, supra note 3, at 36-37.

15. See Responsive Regulation, supra note 3, at 29-30.

16. Responsive regulation uses escalating forms of government intervention, the severity of which is closely matched to the severity of harm to be punished, in order to promote less intrusive market oriented methods of control. Responsive Regulation, supra note 3, at 4-5.

17. See id. at 19-52.

18. See id. at 54-100.

19. See id. at 101-32.
wrongdoing. Because the marketplace is populated by both rational and irrational actors, a pyramidal enforcement hierarchy is necessary which applies punishments ranging from widely used "persuasive" measures at the bottom of the regulatory pyramid to the seldom used "incapacitative" punishments at the top of the pyramid. The TFT model appeals to the different motivations which may influence any given polluter. Persuasive methods address the non-economic interests which the corporation may have such as a desire to be well-liked by the public and a sense of civic responsibility, rather than mercenary interests such as avoidance of punishment.

For such responsive regulation to work, both the regulator and the regulated must possess reasonable assessments of their respective interests. The regulator must understand the regulatee in order to judge whether persuasion or punishment will succeed in obtaining the desired behavior. The corporation must acknowledge its interests within the TFT model. It must understand the credibility or likelihood of punishment and the gains to be reaped from voluntary compliance with the regulations. An accurate understanding of the societal costs of violation, and the subtle ways in which productivity may be thereby reduced, would help persuade polluters into greater compliance.

Under the theory of tripartite regulation, a responsive regulatory framework such as that described above is supplemented by the introduction of a third-party to the regulatory scheme, Public Interest Groups (PIGs). The involvement of PIGs is designed to prevent the regulator and the regulated corporations from entering a marriage of convenience which would result in a less than socially optimal degree of

20. Id. at 25-36.
21. Id. at 30.
22. Id. at 35-36. Ascension of the regulatory pyramid is justified when the violator of environmental standards is grossly negligent, intransigent or willful, and commits continuous violations. See id. at 35-53.
23. Id. at 31-42.
24. If wider social costs were properly accounted for, corporate polluters would also achieve a truer picture of the cost of pollution to their own productivity. Sick workers are less productive than healthy ones. The useful life of production equipment is also lessened by pollution related damage such as corrosion due to acidic discharges and particulate matter as they descend from the atmosphere. This damage has been estimated to reach the tens of millions of dollars annually. (This figure does not include an estimate of the cost of damage related to chlorofluorocarbons and ozone depletion.) See G. Tyler Miller, Living in the Environment: An Introduction to Environmental Science 439 (5th ed. 1988).
This type of inefficient and undesirable situation occurs when the regulator sees ease of enforcement as superior to the achievement of environmental goals which results in a reduction in the frequency and severity of punishment. Possessing the same information as regulators, third party interests can press regulators to apply discretionary punishments in pursuit of an optimal level of pollution control.

Under an enforced "self-regulation" model, the state would promulgate general guidelines within which the regulated industries could write their own compliance standards. One of the rationales behind self-regulation is that environmental monitors, who are either part of the private regulated industry or are closely affiliated with it, will be more knowledgeable of production practices, their effects on the environment, and how to best mitigate those effects. In the enforced

25. Id. at 54-55. At times, it is impossible to distinguish purely public or purely private "interest." Multiple motives such as pecuniary interests or citizenship interests are often inextricably linked. Errol Meidinger, Regulatory Culture: A Theoretical Outline, 9 LAW & POLICY 355, 366 (1987). Indeed it is impossible for an individual to so categorize his or her own interests with certainty. See IMMANUEL KANT, THE GROUNDWORK OF THE METAPHYSIC OF MORALS (H.J. Paton, trans. 1964). However, as Ayres & Braithwaite argue, a party can be sufficiently removed from the regulatory process to render capture unlikely. RESPONSIVE REGULATION, supra note 3, at 77-78.

26. Although capture theory has been rejected as overly simplistic, American regulatory history is replete with instances of capture. After the establishment of the United States Forest Service by the United States Department of Agriculture, rangers in the field became less advocates of federal land protection and more lobbyists for their assigned regions' interests. See HERBERT KAUFMAN, THE FOREST RANGER: A STUDY IN ADMINISTRATIVE BEHAVIOR 75-80 (1960). Similar phenomena occurred in the regulation of utilities and common carriers which were regulated by allegedly independent agencies. See Marketing Pollution, supra note 1, ch. 2, at 14; see, e.g., Samuel P. Huntington, The Marasmus of the ICC: The Commission, the Railroads, and the Public Interest, 61 YALE L.J. 467 (1952).

27. RESPONSIVE REGULATION, supra note 3, at 95-96.

28. This regulatory framework is sometimes called "co-regulation." See RESPONSIVE REGULATION, supra note 3, at 102.

29. Id. at 104-06. Present federal pollution acts do rely heavily on information supplied directly by the regulatees in satisfaction of monitoring and reporting requirements. See infra text accompanying notes 34-64. However, true self-regulation has not been used in the realm of pollution control in the United States. The closest we have come to self-regulation in the United States is the largely voluntary adherence by large corporations to Generally Accepted Accounting
self-regulation regime, it is vital that companies reveal the true extent of their polluting behavior so that enforcement penalties provide realistic incentives for compliance.\textsuperscript{30}

Even if polluters attempt to fully comply with all applicable pollution laws in good faith, those laws will achieve a socially beneficial level of pollution control only insofar as they reflect the true risks to health and environment represented by pollution. Damage to the environment translates into many costs which are external to the cost structure of polluting companies.\textsuperscript{31} Environmental regulation is effective insofar as it causes polluters to internalize the costs linked with damage to the environment—the true social cost of their behavior to society.\textsuperscript{32}

Accurate information on the effects of production practices is necessary not only to construct effective environmental policy, but also to promote proportional and reasonable application of available sanctions. In fact, the lack of accurate information on the true effects of toxicity and health dangers has been cited as the primary handicap to the determination of the true risks involved in production practices and in crafting effective legislation.\textsuperscript{33} The United States has relied primarily on adversarial means of obtaining such information in the legislative process.

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\textsuperscript{30} See supra text accompanying note 14.

\textsuperscript{31} Pollution is an externality because it is generated through the production processes of manufacturers, who profit therefrom, but who do not bear the economic costs to others resulting from health damage and lost enjoyment of both private and public property. WILLIAM J. BAUMOL \& ALAN S. BLINDER, ECONOMICS: PRINCIPLES AND POLICY 621-22 (3d ed. 1985).

\textsuperscript{32} Id. at 623-24. Cf. Harold Demsetz, Toward a Theory of Property Rights, 57 AM. ECON. REV. 347, 347-48 (May 1967) (discussing property rights in common resources such as land, air and water as means of promoting internalization of use costs).

\textsuperscript{33} Mary L. Lyndon, Information Economics and Chemical Toxicity: Designing Laws to Produce and Use Data, 87 MICH L. REV. 1795, 1796 (1989).
III. METHODS OF EXTRACTING INFORMATION FROM POLLUTERS IN THE UNITED STATES

Government regulators have extracted information from corporate actors regarding their production practices through a finite number of common law duties and sometimes overlapping legislative programs. These include principles of tort and contract law, state legislation, and joint state and federal regulatory schemes. Over time, industry has begun to obtain greater amounts of information than required by law for its own internal use through environmental audits. While principles of "good management" are increasingly taking cognizance of environmental needs, it is unlikely that the information gathered will be made available to regulators or the public due to economic disincentives for corporations at this time.

A. Joint Federal-State Legislation

Modern federal pollution statutes have attempted to replace a hodgepodge of state health and public safety laws governing the handling of materials that are potentially hazardous to human health in residential areas and on navigable waters.34 The National

34. See MILLER, supra note 24, at 483 (discussing the evolution of water pollution control in the United States). For example, the Federal Water Pollution Control Act (FWPCA) was originally passed in 1948 with a narrow definition of "interstate waters" over which the Federal government would assert a degree of regulatory control; however, the primary responsibility for regulation of dumping into water bodies would lie with the states. See F.W.P.C.A., Pub L. No. 80-845, § 2(d)(1), 62 Stat. 1155, 1156 (1948). See also Frank J. Barry, The Evolution of the Enforcement Provisions of the Federal Water Pollution Control Act: A Study of the Difficulty in Developing Effective Legislation, 68 MICH. L. REV. 1103, 1112-28 (1970). Water bodies not covered by the Federal Act were left to the complete control of the states. Prior to the enactment of FWPCA, water bodies were covered by a web of poorly coordinated common law and statutes. The common law protected the riparian rights of those living along a stream to have water "free from contamination and without loss or diminution in quantity." PROGRESS REPORTS OF THE SPECIAL COMMITTEE ON POLLUTION ABATEMENT, N.Y. LEGIS. DOC. NO. 59, TO THE LEGISLATURE OF 1947, 32 (1947). Section 213 of the New York Conservation Law prohibited factories from polluting or obstructing a stream, while section 176 made any violation a misdemeanor and imposed fines. Id. at 32. Sections 76 to 85 of the N.Y. Public Health Law contained directives not to pollute, but these had little effect due to the ease of obtaining exemptions from the State Commissioner of Health. Id. at 31, 36-40; cf. Marketing Pollution, supra note 1, ch. 2, at 10-16 (discussing the evolution of
Environmental Policy Act of 1969 (NEPA)\textsuperscript{35} gave most environmental administrative authority to the Administrator of the United States Environmental Protection Agency (EPA). NEPA empowered the EPA Administrator to obtain information from potential polluters as a condition prior to permitting or licensing polluting practices. Information is gathered through provisions which require: (1) periodic performance reporting, (2) record keeping, (3) notification and reports of problems and emergencies, (4) compliance and noncompliance reports, and (5) general notification requirements.\textsuperscript{36}

Several statutes such as the Federal Water Pollution Control Act of 1948 (FWPCA),\textsuperscript{37} the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA),\textsuperscript{38} the Resource Conservation and Recovery Act of 1976 (RCRA),\textsuperscript{39} and the Clean Air Act of 1977 (CAA)\textsuperscript{40} authorize the EPA to require inspections and reporting in order to allow the EPA to develop standards, monitor procedures, and gather information which is reasonably relevant to the purposes of the individual Acts.\textsuperscript{41}

Records of all toxic waste produced by a facility are required prior to granting permission for polluting activities and are to be kept subject to production upon request by the EPA or state regulators. For example,
FWPCA requires that all data used to prepare any report, such as emergency spill reports, must be kept for three years. Similar provisions are found in CERCLA, CAA, and RCRA.

In an effort to gauge the continued compliance or non-compliance of polluters with the required environmental data, the EPA has used its monitoring authority to require, where applicable, periodic reporting of emissions or discharges into the air or water and deposits into storage facilities. Each statute contains the threat of possible civil and criminal sanctions for non-compliance, and such sanctions are at

42. Section 311 of the FWPCA mandates that discharges of oil and hazardous substances in excess of prescribed quantities must be reported to the appropriate federal agency (usually the Coast Guard's National Response Center). Duties, supra note 36, at 19. See 33 C.F.R. § 153.201 (1991); 40 C.F.R. § 300.51(b) (1991).


44. 42 U.S.C. § 9603 (requiring every facility that treats or stores hazardous waste to hold records for 50 years containing the location, title, and conditions of the facility, as well as the identity, quantity, and quality of substances which were stored there).

45. 42 U.S.C. §§ 7141, 7452, 7611 (requiring stationary sources of air pollution to keep monitoring records including information on start-ups, shut-downs, malfunctions of control equipment, and periods of no monitoring).

46. 42 U.S.C. §§ 6924, 6927, 6934, 6991(d) (requiring any records of waste tests or shipping manifests to be kept for three years).


48. 40 C.F.R. § 403.12(e) (1991) (requiring Discharge Monitoring Reports (DMRs) to be submitted to the permitting authority, often a state agency, at intervals specified in the discharger's permit; DMRs must summarize the content of effluent discharges, required flow measurements, and sample collections for laboratory analysis).

49. Necessary reports include biannual reports by generators of all hazardous waste shipments, including amount, type, and destination. Treatment, Storage, or Disposal (TSD) facilities must periodically report the amount of hazardous waste received and may include the method of treatment, storage or disposal. Permitted facilities must also submit risk assessment reports which estimate possibilities of human exposure. 42 U.S.C. §§ 6922-25, 6927. See 40 C.F.R. §§ 262.41, 262.75 (1991).

50. 33 U.S.C. § 1319 (giving the Administrator of the EPA discretion to initiate civil actions or criminal proceedings under FWPCA, and requiring the Administrator to issue notices to violators and the appropriate state regulatory authority).
the discretion of local regulators and the EPA Administrator.

In addition to compelling the production of necessary information, these state and federal statutes require public and private polluters to notify the relevant authorities of problems with meeting quality standards and emergency leaks or spills in the interest of protecting public health. Information on emergency health hazards is channeled by the FWPCA, CERCLA, and RCRA to the National Response

51. The ability of a state to veto the application of FWPCA was restricted by the addition of the U.S. Attorney General's power to act at the behest of a state affected by interstate pollution rather than only at the request of the state in which the pollution originated. See BARRY, supra note 34, at 1113. Yet, the discretion of state officials still plays an important role in FWPCA. The 1961 Amendments required the governor unilaterally, or the municipality with permission from the governor and the state water pollution agency, to request federal involvement before review of pollution activity in interstate waters would be triggered. See id. at 1114. Section 21 of the 1977 Amendment allows states to veto federal permits when the potential pollution harm from the permitted project is deemed unacceptable. Id. at 1125-27 (lauding this "selective preemption" of the power of the Secretary as allowing proper flexibility which recognizes the differences among the various states).

52. 33 U.S.C. §§ 1370-71; 42 U.S.C. § 9658; 42 U.S.C. § 6902(7). The Administrator of the EPA (or in some cases the Secretary of the Interior) may simply issue loose regulations. This may occur even in the wake of previous, more stringent regulations as long as the change is not "inconsistent" with the empowering act. For example, the laissez faire attitude of the Reagan Administration towards environmental regulation was successfully reflected through CAA when the Administrator of the EPA loosened the threshold requirements for "netting" on non-attainment areas after reversing its own past positions. The Supreme Court upheld and significantly shielded this use of discretion from further judicial scrutiny. Chevron U.S.A., Inc. v. Natural Resources Defense Council, 467 U.S. 837 (1984). MARKETING POLLUTION, supra note 1, Ch. 4, at 28-32. These efforts can, however, be thwarted. For example, within the CAA, § 202 allows no discretion with regard to setting automobile standards. See 42 U.S.C. §§ 7411-7416. MARKETING POLLUTION, supra note 1, ch. 3, at 15. Notwithstanding this fact, inspectors and local regulators, in any sort of semi-prosecutorial setting, have the discretion simply not to report their findings. See supra at notes 25-27 and accompanying text.

53. 40 C.F.R. § 122.41(m)(3) (1991) (requiring verbal notification to the permitting agency or National Response Center within 24 hours of bypasses under the NPDES Permits). See also 40 C.F.R. § 403 (1991) (requiring the reporting of waste loads which are likely to jeopardize the compliance of a publicly owned treatment works).

54. 42 U.S.C. § 9603(a) (requiring that the National Response Center be notified immediately when a responsible party learns of any release of a hazardous substance, including toxic air emissions).
The EPA and authorized state regulatory bodies may also compel reports in their enforcement and nonenforcement oversight capacities. In a nonenforcement context, additional reports may be requested to supplement information required before issuing a permit for a given activity\textsuperscript{56} or to clarify information relevant to handling requirements.\textsuperscript{57} The CAA also empowers the EPA and the local administrator to supplement notices of alterations in plant operations or activities which may increase the emission rate of air pollutants.\textsuperscript{58}

Reports may also be compelled under these state and federal statutes in order to assist agencies in determining compliance or noncompliance. Under CERCLA and FWPCA, reports which verify continued compliance with discharge requirements\textsuperscript{59} and water effluent limitations\textsuperscript{60} may be requested as necessary. CAA and RCRA allow the Administrator of the EPA to obtain from source polluters and Treatment Storage or Disposal (TSD) operators any and all information that is necessary to evaluate the risks involved in a departure from previously approved production and storage practices.\textsuperscript{61} The power to require

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\textsuperscript{55} Exception reports must be submitted if a manifest is not returned within 45 days to the generator. A transporter must also report any release to the National Response Center. In an emergency at a facility, notification must first be given to local officials and then to the National Response Center. 42 U.S.C. §§ 6921-25. See also DUTIES, supra note 36, at 12.

\textsuperscript{56} See 33 U.S.C. § 1318 (providing that agencies may request supplemental information on pollutant discharging practices in order to determine whether a permit is required).

\textsuperscript{57} See 42 U.S.C. § 9603 (providing that the EPA may ask for information about the identity and quantity of waste a TSD stores, or from generators who shipped waste to a particular facility), 42 U.S.C. §§ 6934, 6991(d); 40 C.F.R. § 262.43 (1991) (requiring a detailed plan of waste analysis procedures used to be submitted upon request; RCRA can also compel production of TSD log books).

\textsuperscript{58} 42 U.S.C. § 7414.

\textsuperscript{59} See 42 U.S.C. § 9604(b) (allowing the Administrator to order reports he finds necessary to protect the public health or welfare or the environment from any known or suspected release that may occur).

\textsuperscript{60} At its discretion, the permitting agency may request reports on continued compliance which are in addition to the periodic reports. DUTIES, supra note 36, at 7.

\textsuperscript{61} See 42 U.S.C. §§ 7414, 7542; 40 C.F.R. §§ 52.21(n), 61.54 (1991) (requiring, under CAA, owners and operators who propose to modify any practice which will increase their pollutant emissions to provide information necessary to perform
discretionary reports in these state and federal statutes fulfills dual functions. First, the public health is protected by obtaining information about the extent of unlicensed discharges. Second, enforcement of these statutes is furthered by offering the threat of sudden compelled reports which may reveal non-compliance which is subject to subsequent sanctions. This second function is more overtly served by provisions of these Acts which authorize surprise inspection authority.

FWPCA, CERCLA, CAA, and RCRA all attempt to promote compliance by leaving potential polluters uncertain as to when their operations will be scrutinized and possibly opened to liability under federal and state statutes. In theory, polluters will be on their best behavior at all times because they never know when their records and their facilities will be inspected.

This type of command and control legislation has useful aspects. Federal legislation has a broad reach and can affect all the members of an industry or all the polluters of a certain type throughout the country. The presence of federal legislation is at least a token indication that tackling pollution is a national priority. Yet, as CAA illustrates, any legislation which covers only an enumerated list of pollutants is inevitably underinclusive, given the rate with which new substances are

analysis of the impact of the proposed change); 42 U.S.C. §§ 6927, 6991(b), 6991(d); 40 C.F.R. §§ 264.73, 265.73 (1991) (allowing the Administrator, under RCRA, to order further reports based on information received from past site monitoring or in response to purported leaks from TSD or underground tanks).

62. 33 U.S.C. §§ 1318, 1321 (allowing the Administrator or any authorized representative to inspect required records or controls at facilities at any reasonable time); 42 U.S.C. §§ 9604(b), 9604(e) (giving the Administrator and state officials power to order any investigation necessary to preserve health and safety); 42 U.S.C. §§ 7414, 7418, 7426, 7542, 7603; 42 U.S.C. §§ 6927, 6934, 6991(d) (requiring that every facility must be inspected at least once every two years).

63. The importance of surprise is not formally recognized in the legislative history of these Acts. However it is doubtful that Congress failed to realize the importance of the power behind surprise inspections. See S. Rep. No. 462, 80th Cong., 2nd Sess. 3729, reprinted in 1948 U.S.C.C.S. 2215. This long-standing strategy under classical deterrence theories of regulation was empirically supported by the work of behaviorist psychologists who found that an unpredictable application of positive or negative reinforcers produced a steadier rate of response than a predictable application. See ANDREW B. CRIDER ET AL., PSYCHOLOGY 200-01, 207-09 (1983).
Command and control legislation has focused on specific types of pollution and has frustrated the formulation of a comprehensive pollution policy. If a certain type of pollution is not caught within the regulatory web of loosely connected legislation, it may escape the reach of regulation despite the need to control the practice for effective environmental administration. Moreover, federal bureaucracy and the attempt to make detailed standards has resulted in a cumbersome process with great discretion in enforcement.

With these realizations in mind, legislators began to develop toxic legislation reaching across industry boundaries.

64. 42 U.S.C. §§ 7409(a)-(b) (setting nationwide ambient air quality standards for major, widespread pollutants which have adverse effects on public health or welfare). Area-specific concentration limits are set for sulfur dioxide, heavy metals in particulate form, carbon dioxide, nitrogen oxides, ozone gas and lead. Marketing Pollution, supra note 1, ch 3, at 3-4. Because of the short-term focus of the legislative process and its cumbersomeness, addition of toxins to such a list are slow. For example, only two ambient standards have been added to CAA since the standards were established by the 1977 Amendments. See Lead Industries, Inc. v. E.P.A., 647 F.2d 1130 (D.C. Cir. 1980), cert. denied, 449 U.S. 1042 (1980); Marketing Pollution, supra note 1, ch. 3, at 7.

65. A persistent problem in this regard is cross border pollution, pollution at the source of forming rivers and lakes, and pollution on the high seas. See generally Louis Henkin et al., International Law 1274-75, 1317-20 (2d ed. 1987) (describing recent attempts by the United States and the United Nations, acting independently, to deal with the problem of transnational pollution of coastal and international waters).

66. Despite repeated amendments to the 1948 FWPCA, multiple conferences and hearings were required before any coercive action could be taken. Barry Boyer & Errol Meidinger, Privatizing Regulatory Enforcement: A Preliminary Assessment of Citizen Suits under Federal Environmental Laws, 34 BUFF. L. REV. 833, 846 (1985) [hereinafter Citizen Suits]. The enforcement process was so slow that only one case reached the courts in two decades after FWPCA was passed. S. Rep. No. 414, 92nd Cong., 2d Sess. 5 (1971), reprinted in 1972 U.S.C.C.A.N. 3668, 3672. The doctrinal difficulty of attaching liability to specific polluters may also have served as a deterrent enforcement activity. Citizen Suits, supra at 838-39. For a discussion of the many sources of delay in the FWPCA see Barry, supra note 34.

67. See supra note 52.
B. Laws that Make Corporations Learn: The Right-to-Know

By the late 1970s and early 1980s, many states, including New York and California, attempted to involve their citizens in the environmental regulation process by creating right-to-know laws. These laws use a combination of five possible provisions consisting of, "(1) disclosure of the identity of the chemical agent to which humans are exposed; (2) warning of its known hazards; (3) testing to determine hazards; (4) curtailing exposure by reducing the discharge of the chemical; and (5) compensation for any injuries proved to be caused by chemical exposure." Right-to-know laws were first enacted at the federal level through the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA). The right-to-know strategy was first applied on a federal scale in the Occupational Safety and Health Act of 1970 (OSHA), which gave workers the right to know what health hazards were present in their workplace and mandated exposure.

68. Lyndon, supra note 33, at 1833-34. See, e.g., CAL. HEALTH & SAFETY CODE § 25180.7 (West 1992) (making failure to disclose information of illegal discharges of hazardous waste a felony, and requiring local health officers to inform the public of such information); N.J. STAT. ANN. §§ 13:1K to 13:6K (West Supp. 1992) (requiring parties to real estate transactions to assess the toxicity of a site and arrange for cleanup prior to closing and to secure state certification as to the adequacy of the cleanup); N.Y. PUB. HEALTH LAW §§ 4800-4808 (McKinney 1985) (mandating ongoing health monitoring by employers of workers exposed to toxic substances).

69. Lyndon, supra note 33, at 1856.


72. Section 21(c) authorizes the Secretary to "provide for the establishment and supervision of programs for the education and training of employers and employees in the recognition, avoidance, and prevention of unsafe or unhealthful working conditions in employments covered by . . . [the Act]." 15 U.S.C. § 670. Section 6(b)(7) requires that this standard "prescribe the use of labels or other appropriate forms of warning as are necessary to insure that employees are apprised of all hazards to which they are exposed, relevant symptoms and appropriate emergency treatment, and proper conditions and precautions of safe use or exposure." 15 U.S.C. 655(c)(7). These provisions trace their roots to the doctrine of informed consent. Lyndon, supra
limits for certain chemicals.\textsuperscript{73}

Although right-to-know laws and federal toxin limits have been categorized as a more "aggressive" approach to environmental protection, the effectiveness of these laws are hindered by the trend to withhold information from the American market-place by using generic packaging.\textsuperscript{74} As a result, consumers often remain unaware of potential hazards.\textsuperscript{75} This is particularly true where the ingredients of a product (especially cleansers which can contain some of the most caustic and harmful chemicals produced) can be argued to be a protected "trade secret."\textsuperscript{76}

Additional problems arise from a right-to-know law's use of corporate research duties. Toxicity research does not contribute to profitability in a direct sense and is, therefore, underproduced by the marketplace.\textsuperscript{77} Consequently, the effectiveness of right-to-know laws may be undermined by halfhearted participation in research caused by

\textsuperscript{73} See generally Richard Dec. Hinds & Robert D. Moran, OSHA: Toxic Substances in the Workplace (1983) (discussing OSHA's authorization of the Secretary to issue regulations which create a "standard" of safe practices and to prescribe regulations regarding workplace exposure to toxic substances).

\textsuperscript{74} Lyndon, supra note 33, at 1796.

\textsuperscript{75} Id.

\textsuperscript{76} It is argued that the revelation of specific chemical data may reveal to competitors practices that would defeat a business competitive advantage. Lyndon, supra note 33, at 1855-56 n. 217-219. See, e.g., N.C. Gen. Stat. § 95-174(m) (1989) (defining a trade secret as "any formula, plan, pattern, device, process, production information . . . which is not patented . . . and which is used or developed for use in the employer's business, and which gives the employer possessing it the opportunity to obtain a competitive advantage over businesses who do not possess it, or the secrecy of which is certified . . . as necessary for national defense purposes"); Freedom of Information Act, 5 U.S.C. § 552 (1988) (exempting trade secrets from federal agencies' reporting requirements); John L. Spilsbury, Comment, The Hazardous Chemicals Right-to-Know Act: Letting the Public Know What's Next Door, 64 N.C.L. Rev. 1342-43 (1986) (stating that defense related trade secrets are given double protection).

\textsuperscript{77} E.g., Lyndon, supra note 33, at 1810-17 (discussing that information regarding the effects of toxins or their use in combination often involves the use of costly epidemiological data or modelling, the usefulness of which is uncertain until after the information is gathered and analyzed); Rational Man and Irrational Society? 31-33 (Brian Barry & Russell Hardin eds. 1982) (discussing the manner in which public goods and other factors affect the decision-making process); Lyndon, supra note 33, at 1810-12.
this economic disincentive. Moreover, the research data obtained are subject to manipulation and the statistical data derived from these tests may be incorrect.\textsuperscript{78} If an entire industry is lax, the general standard of expected research will remain low. Even if all firms attempt to comply, right-to-know acts may discriminate against smaller businesses.

Often, large firms possess enough research and development funds to analyze their factors of production. However, given the economic cost of such research, many smaller businesses are deterred from complying fully with these acts.\textsuperscript{79} To equalize responsibility and ability to pay, a "super study" plan, modelled after the Superfund hazardous waste cleanup program, could be developed to help subsidize research\textsuperscript{80} and to create a centralized computer database for use by companies researching their production processes.\textsuperscript{81}


The Securities Exchange Acts of 1933\textsuperscript{82} and 1934\textsuperscript{83} contain regulations that could be used to restrain corporate environmental behavior. These acts require that large, publicly held corporations provide periodic information to their stockholders regarding their financial health. Officers of corporations are held personally liable for omitting or misrepresenting "material facts" about the financial well-being of the corporation to the stockholders.\textsuperscript{85} The regulations that enforce management's duty to properly represent material facts could be conceptually extended to the environmental realm.

Due to the rising economic costs of complying with increasingly

\textsuperscript{78} Lyndon, supra note 33, at 1816 n.78.
\textsuperscript{79} Id. at 1834.
\textsuperscript{80} Id. at 1837-41.
\textsuperscript{81} Id. at 1841-55.
\textsuperscript{84} Corporations with more than $5 million of assets must register issues with the Securities Exchange Commission and make public periodic financial information. See ROBERT W. HAMILTON, FUNDAMENTALS OF MODERN BUSINESS § 14.2, at 341 (1989).
stringent environmental regulations, a firm may amass costly liabilities for environmental violations. The impact of regulations on the corporate cost structure, legal proceedings, and the costs of compliance policy may in fact be material economic factors.\textsuperscript{86} It follows that stockholders can exert pressure on the officers of a corporation to behave in an environmentally responsible manner out of concern for the stability of their own investment or even concern for the effects of their corporation's production practices on the environment. All information submitted to the Securities Exchange Commission (SEC) or contained in reports filed thereunder, are open to public inspection under the Freedom of Information Act.\textsuperscript{87} However, several realities suggest that the SEC regulations do not, as of yet, play a significant role in environmental protection.

The limited scope of the securities regulations and the substantial discretion afforded corporate management in corporate law, limit the effectiveness of these regulations to promote environmentally sound corporate behavior. First, many of the duties of the Acts only apply to publicly held corporations. Many polluters may be closely held manufacturing concerns. In addition, the board of directors of a corporation is given wide discretion to determine what is in fact "material." Because they are within their given industry, and therefore more familiar with their production practices, corporate directors are presumed by courts to be business professionals who know their likelihood of economic success better than the inexpert court.\textsuperscript{88}

The SEC considered, but refused to impose, a broad requirement of disclosure of environmental policy because it feared such a requirement would result in "subjective disclosure incapable of verification."\textsuperscript{89} While such an environmental requirement may lead to this effect, the financial regulations of the SEC are similarly unverifiable. The allegedly concrete information in financial statements

\textsuperscript{86} DUTIES, supra note 36, at 42-43.

\textsuperscript{87} Id. at 50.

\textsuperscript{88} See, e.g., Bayer v. Beran, 49 N.Y.S.2d 2 (Sup.Ct. 1944). To encourage freedom of action, and discourage interference with the exercise of directors' independent judgments, the business judgment rule leaves "[q]uestions of policy of management, expediency of contracts or action, adequacy of consideration, lawful appropriation of corporate funds to advance corporate interests, . . . solely to their honest and unselfish decision." Id. at 6 (quoting Pollitz v. Wabash R. Co., 207 N.Y. 113, 124, (1912)).

\textsuperscript{89} DUTIES, supra note 36, at 43.
are heavily manipulated and firms tend to shop around for the accounting firm with the most favorable "independent" opinion.\textsuperscript{90} It is likely that the SEC's stated fear of the creation of additional bureaucracy was supplemented by the influence of powerful corporate regulatees who desired that the clause be dropped. Regardless, the SEC does pledge to insure the accuracy of any voluntary disclosures.\textsuperscript{91}

D. The Common Law: A Limited Source of Duties to Disclose Environmental Hazards

The common law imposes several duties on a corporation that aid in environmental enforcement. There is a general duty to warn those potentially affected by a harm one creates.\textsuperscript{92} While a few plaintiffs in environmental cases succeeded in the nineteenth century,\textsuperscript{93} the rulings did not extend beyond the duty to warn entrants to one's business or residence. In modern times, prior to the enactment of state and federal statutes, information about polluting behavior was grossly misanalyzed by the courts when they applied nuisance law.\textsuperscript{94}

Nuisance doctrine, which developed under British common law, was used to protect the "quiet enjoyment" of residents near polluters in late nineteenth- and early twentieth-century America. However, courts were often influenced by the political and social prominence of industries

\textsuperscript{90} Omitting liabilities from the balance sheets, deviating from GAAP accounting conventions, inflating or deflating asset or inventory value and a host of other techniques are used to create a favorable financial picture. These practices are referred to euphemistically as "creative accounting" or cynically as "flim flam in the books." See HAMILTON, \textit{supra} note 84, at § 9.14.

\textsuperscript{91} See, \textit{e.g.}, Rowland v. Christians, 443 P.2d 561 (1968) (finding owner of residence liable for failing to warn social guest of cracked faucet); Tarasoff v. Regents of Univ. of Cal., 551 P.2d 334 (1976) (finding psychiatrist negligent for failing to warn plaintiff that another patient had threatened to harm the plaintiff); Borel v. Fibreboard Paper Prod. Corp., 493 F.2d 1076, 1089-90 (5th Cir. 1973) (finding manufacturers liable for failing to perform tests and to keep abreast of ongoing research), \textit{cert. denied}, 419 U.S. 869 (1974); see also DUTIES, \textit{supra} note 36, at 50.

\textsuperscript{92} DUTIES, \textit{supra} note 36, at 43.

\textsuperscript{93} \textit{Duties, supra} note 36, at 50.

\textsuperscript{94} \textit{Id.}
in their communities. Legislation was therefore better suited than nuisance doctrine to improve the general quality of the environment and protect individual property rights.

E. Professional Ethics: The Corporate Professional’s Lips Are Sealed

While duties exist to disclose acts or economic conditions which are contrary to general standards of care, engineers, accountants, and lawyers are restricted by professional policies which limit the extent in which these revelations may be freely made. Engineers are required to certify that they are designing and implementing safe procedures; however, they are under no duty to disclose with specificity any departures from safe practice. Accountants must certify only that financing procedures and cost accounting relating to environmental compliance accord with generally accepted accounting principles; however, as long as an environmentally harmful practice is entered into the books correctly, accountants need not be concerned. A corporation’s attorney can only reveal information regarding future wrongdoing; however, knowledge of past violations is privileged information and may not be revealed. It is politically unlikely that any of these groups would accept an “environmental exception” to their traditional professional responsibilities.

95. See, e.g., Pennsylvania Coal v. Sanderson, 6 A. 453 (1886). In its decision, the court noted that although defendant coal mining company was negligent in polluting water on plaintiffs’ land, thereby diminishing the value of the land, “[plaintiffs’] personal inconveniences . . . must yield to the necessities of . . . great public industry . . . [A]lthough in the hands of a private corporation, [such corporations] subserve . . . a great public interest . . . [T]rifling inconveniences to particular persons must sometimes give way to the necessities of a great community.” Id. at 459.

96. DUTIES, supra note 36, at 35.

97. Id.

98. See generally Murray L. Schwartz, Lawyers and the Legal Profession 72-79 (2d ed. 1985) (discussing decisions that define the scope of the attorney-client privilege in criminal and corporate settings). The privilege is often used to ensure the confidentiality of environmental audits. See Phillip D. Reed, Comment: Environmental Audits and Confidentiality: Can What You Know Hurt You as Much as What You Don’t Know?, 13 ENVTL. L. REP. 10,303, 10,307-08 (1983).
IV. ENVIRONMENTAL AUDITING: THE INCREASINGLY VOLUNTARY PERFORMANCE OF ENVIRONMENTAL RESEARCH

The lack of environmental information transfering between corporate America and its government regulators has not been a function of the inability of polluters to monitor their production processes. Companies have become increasingly sensitive to the economic and public relations effects of environmental damage. As a result of sensitivity, more than two-thirds of larger manufacturing companies engage in voluntary environmental auditing.99

Environmental auditing is generally an in-house evaluation consisting of tests and verification of a plant's procedures and practices with reference to legal requirements, internal policies, and accepted practices.100 In response to the increasing complexity of environmental regulation in the 1970s, many firms established environmental auditing programs to help meet the demands of environmental compliance and to increase internal managerial control of their production processes. Auditing assists companies in their efforts to comply with environmental standards by providing data to determine compliance status and improve environmental performance at the production level. To achieve these goals, it is necessary to increase the "environmental awareness" of operators responsible for compliance and to reveal where procedures can be improved.101 In addition, auditing helps companies maintain tighter control over their use of materials and identify potential liabilities that could result from their business practices.102

Audits are usually conducted by a "core corporate group" which operate in a manner reflecting the firm's desire to either achieve independence of the audit function or to emphasize accessibility and familiarity with the processes to be audited.103 The "core group" is usually located in an internal audit department, an environmental

99. Reed, supra note 98, at 10,303.
101. Id. at 2.
102. Id.
103. Id.
division, a regulatory affairs unit, or a legal department. While financial auditing has clear conventions and prescribed duties, environmental auditing is a relatively new and fluid practice which is guided by no uniform standards.

Companies that have supplied information to EPA studies on environmental auditing practices have cited common benefits from developing such practices. Firms with strong audit programs find that their staff is more knowledgeable of their environmental compliance duties and that this knowledge translates into higher levels of compliance and a decrease in the number of pollution lawsuits. Better relations with both regulators and the general public are also achieved. Auditing companies have also found that cost control and management self-evaluation are more efficient and production processes are more thoroughly understood.

Auditing is an efficient means of gathering information which would be useful in the hands of regulators. If the regulatory community had more accurate information about the production of pollution, regulations and enforcement schemes could be more appropriately tailored to production processes. However, an increase in information sharing between the regulator and the regulatee is unlikely, given the ingrained distrust of the government by the private sector.

V. CONCLUSION

Despite the cumbersomeness, inflexibility, and underinclusivity of state and federal pollution legislation, corporate America's distrust of government regulators and the ideology of industry-government separation dictates that statutes such as FWPCA and CAA will continue to be the mainstay of American environmental control. However, research duties applied by right-to-know laws illustrate that the

104. Id. (placing environmental audit responsibilities within the legal department provides additional insulation of audit results from the scrutiny of regulators because of the attorney-client privilege).

105. CURRENT PRACTICES, supra note 100, at 4.

106. See, e.g., CURRENT PRACTICES, supra note 100.

107. CURRENT PRACTICES, supra note 100, at 34.

108. Id.

109. Id. at 39.

110. Id. at 87.
The responsibility of assessing environmental risks can be successfully delegated to industry. Therefore, further subsidization of such research should be provided and equitably distributed.

The increasing development of environmental auditing signifies industry's ability to understand its polluting behavior, but there has not been a willingness to share that understanding with regulators. In order to harness whatever gains in compliance techniques are being developed with environmental audit information, flexibility and confidentiality must be assured in order to coax reluctant firms to provide this valuable information to government regulators. Although the EPA has shown some willingness to develop a nonadversarial relationship with the private sector,\(^{111}\) it is unlikely that the Agency will aggressively transform its rigid auditing practices.\(^{112}\) Such conduct only reinforces the EPA's eroding relationship with the private sector. Therefore, the EPA should apply flexibility in its auditing, as its policy statement implies.

"What makes the political tensions generated by environmental hazards so discomforting is not their violence . . . but, rather their implicit questioning of the very political formulas that have bestowed legitimacy on institutions and ideologies in a wide variety of systems."\(^{113}\) To successfully address the pollution problems of the future, ideological barriers must be lowered and an open relationship of shared knowledge between the government and the private sector must be established.

\(^{111}\) The EPA recognizes the chilling effect of using audits in enforcement and does not routinely request them. See 51 Fed. Reg. 25,005, 25,007 (1986).

\(^{112}\) For example, the Agency does not promise to require a showing of "compelling necessity" or unavailability of alternative information sources before requesting an audit report. See id. at 25,005.

\(^{113}\) ENLOE, supra note 1, at 1.