From Elephants to Mice: The Development of EBMUD's Program to Control Small Source Wastewater Discharges

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INTRODUCTION

Environmental regulation in the United States originally focused on large plants and companies. These sources offered the potential for large reductions in emissions and were better able to absorb the costs of control technology. Today most large sources are regulated. Considerable environmental improvement has resulted, especially in water quality. The water, air, and soil are not yet considered "sufficiently" clean, however, and regulators increasingly are starting to regulate smaller businesses.

Regulating small sources raises many difficulties not involved in regulating large ones.[1] In this article, I address some of the problems agen-

1. *See infra* part I.D.1.

cies face as they begin to focus on small sources. I present a case study of the East Bay Municipal Utility District's (EBMUD's) experience in developing its small source enforcement program. I examine EBMUD because it is in many respects an innovative and nationally respected agency.[2] I analyze its experience in light of predictions derived from the political science literature about how regulatory agencies will approach small source permitting and enforcement.

The first issue agencies face as they adjust their approach to regulate small sources more effectively is how to bring the sources within the net of regulation. Where the regulator has discretion, he or she also will have to decide which sources to regulate and how to set and impose standards. These decisions have important implications for the regulatory program's subsequent effective functioning.[3] Second, agencies must decide how to treat the sources it regulates. Political scientists describe the way regulators approach and respond to sources as their "regulatory style." The literature presents three conflicting strands of thought as to what regulatory style a regulator will adopt in dealing with small sources, ranging from extreme leniency through bureaucratic inflexibility to harshness.[4]

Although EBMUD commenced treating wastewater in 1951,[5] it did not begin regulating small businesses until nearly four decades later. From 1951 to 1972, EBMUD only treated wastewater; it did not regulate influent to its treatment works. In 1972, in conformity with its federal permit and the focus of most early environmental regulation, EBMUD began to regulate sources discharging large amounts of pollutants into its plant.[6] To improve the efficiency of its program, EBMUD divided its regulatory staff into the following two roles: representatives, who manage the file for each source and handle legal matters; and inspectors, who visit the sources and take samples. In 1989, faced with tougher water standards and growing concerns about air emissions, sludge contamination, and recycled water quality, EBMUD began to regulate small businesses. Its small source program is still expanding.

Part I of this article explores in greater detail why EBMUD assumed the challenge of regulating small sources. Part II discusses the

2. *See infra* notes 23-24 and accompanying text regarding various awards EBMUD has won. Among San Francisco Bay Area treatment works, EBMUD is reputed to be at the forefront of small business regulation. Telephone Interview with Michael Chee, Associate Water Resources Control Engineer, S. F. Bay Regional Water Quality Control Board (Mar. 26, 1993) (on file with author) [hereinafter Interview with Michael Chee I]. In March, 1992, EBMUD received a Pollution Prevention Achievement Award from the U.S. Environmental Protection Agency. WASTEWATER DEP'T, EBMUD, 1992 PRETREATMENT REPORT 12-75, 12-76 (1993) [hereinafter 1992 PRETREATMENT REPORT].

3. *See infra* part II.

4. *See infra* notes 349-52.

5. EBMUD, ALL ABOUT EBMUD 20 (1991) [hereinafter ALL ABOUT EBMUD].

6. *See infra* notes 48-54 and accompanying text.

lessons emerging from this program about how to bring small sources into a regulatory scheme and set standards for them, while ensuring procedural and economic equity for all parties. To this end, part II presents and reviews five examples of EBMUD's small source program at work.

Part III determines the extent to which EBMUD's experience has vindicated the predictions from the literature. Has EBMUD treated small sources leniently or harshly? Has it resorted to legalistic formalism? Or has EBMUD developed a regulatory style different from those predicted? Part IV explores why EBMUD behaves as it does. In addition, this part discusses the institutional implications of turning to small source regulation for an agency that evolved regulating large businesses. It briefly explores which institutional features facilitate or hamper adaptation to the new tasks and how this adaptation could be improved.

I conclude that EBMUD takes small business regulation seriously, largely because the agency itself is regulated and under pressure to reduce polluting discharges. In response to the need to regulate small sources, EBMUD has changed its permitting process, inspection strategy, and enforcement style. The permitting process has evolved to include greater participation by industry and a different type of discharge requirement, involving lower compliance and regulatory costs. Small sources' resentment of regulation continues to simmer, however, due to the agency's strict insistence on the polluter pays principle[7] (even where the "polluter" does not discharge at all) and the lack of coordination between regulatory agencies. Against predictions, EBMUD's inspectors are demonstrating flexibility and firmness. In line with certain predictions, on the other hand, EBMUD's representatives have responded to the increased number of sources by being tougher and emphasizing deterrence. EBMUD has reduced the need for inspection where possible and is tentatively exploring further alternatives to reduce the regulatory burden on small businesses.

Finally, I conclude that certain structural and institutional features impede EBMUD's adaptation to small source regulation. In particular, the existing division of regulatory functions between inspectors and representatives hinders further evolution of enforcement style. Inspectors do not have full enforcement powers, and representatives do not have regular contact with sources. To some extent, these factors have constrained the development of their respective styles and effectiveness.

7. According to the polluter pays principle, the person, plant, or business responsible for discharging pollution should pay all costs associated with preventing, controlling, and remediating that discharge. *See infra* notes 237-43 and accompanying text.

I
THE HISTORICAL AND REGULATORY CONTEXT

A. EBMUD History and Functions

Voters in the East San Francisco Bay Area created EBMUD in 1923 to provide water service to a large part of the East Bay area.[8] EBMUD is a publicly owned utility with a board of seven directors, publicly elected from wards within the district.[9] In 1944, EBMUD formed its Special District No. 1 to treat wastewater.[10] EBMUD's Wastewater Department runs the wastewater operations.[11] Situated near the entrance to the San Francisco-Oakland Bay Bridge, the treatment plant treats domestic, commercial, and industrial waste from a large urbanized region on the east side of San Francisco Bay.[12] The main wastewater treatment plant serves some 611,000 residential customers and 20,000 business and industrial users.[13]

The physical structure of the wastewater collection and treatment system is as follows. EBMUD owns three large pipes, called "interceptors," which feed directly into the treatment plant. The interceptors receive wastewater from the local sanitary sewer systems, which are owned and maintained by the respective communities.[14] Households, businesses, and industry discharge wastewater into the community sewer system, either directly, or by means of a privately owned sewer connection extending from the building to a city sanitary sewer.

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8. ALL ABOUT EBMUD, *supra* note 5, at 1. EBMUD was created under the authority of the Municipal Utility District Act of 1921 (codified as amended in CAL. PUB. UTIL. CODE, §§ 11501-15822 (West 1965 & Supp. 1993) [hereinafter MUDA].

9. ALL ABOUT EBMUD, *supra* note 5, at 1.

10. In 1941, MUDA was amended to enable the formation of Special Districts for the treatment of wastewater. The amendments are now codified at CAL. PUB. UTIL. CODE §§ 13451-13691 (West 1965 & Supp. 1993).

11. ALL ABOUT EBMUD, *supra* note 5, at 14.

12. Special District No. 1 serves the cities of Alameda, Albany, Berkeley, Emeryville, Oakland, and Piedmont, and the Stege Sanitary District, which includes El Cerrito, Kensington and part of Richmond. *Id.*

13. WASTEWATER DEP'T, EBMUD, 1990 PRETREATMENT REPORT 1-2 (1991) [hereinafter 1990 PRETREATMENT REPORT]. The peak treatment capacity of the district is 448 million gallons per day. EBMUD, WASTEWATER DEPARTMENT SPECIAL DISTRICT NO. 1 OPERATING REPORT: JULY 1990 TO JUNE 1991 4 (1991) [hereinafter OPERATING REPORT]. Average flow in 1991 was around 77 million gallons per day. EBMUD, 1991 ANNUAL REPORT 3 (1991) [hereinafter 1991 ANNUAL REPORT].

For a summary of the physical characteristics of water that necessitate wastewater treatment, see WILLIAM A. ANDREWS ET AL., A GUIDE TO THE STUDY OF ENVIRONMENTAL POLLUTION 22-61 (1972). The primary reasons for treating wastewater are the reduction of biological oxygen demand (BOD) and undesired nutrients. These substances can cause severe changes in aquatic ecosystems. *See id.*

14. There are estimated to be some 1800 miles of community sewer system in Special District No 1. 1990 PRETREATMENT REPORT, *supra* note 13, at 1-2. The aggregate length of the interceptors is 22 miles. *Id.*

EBMUD can compel a discharger to contract with it for the discharge of wastewater into the sewage system.

Wastewater treatment occurs in different stages. Primary treatment separates out oils and greases, sand and silt, floating material, and organic solids that will settle in water. It involves pre-chlorination (odor control), screening (removal of large objects), grit removal, and primary sedimentation. Secondary treatment biologically removes most of the suspended organic and chemical impurities that would otherwise deplete oxygen from the Bay. The wastewater is put through high purity oxygen-activated sludge, final clarification, sludge digestion, and dewatering. EBMUD then disinfects, dechlorinates, and discharges the effluent through a deep water outfall located one mile into the Bay.[15] In Special District No. 1, primary wastewater treatment began on November 15, 1951;[16] secondary treatment commenced in 1977.[17]

Primary and secondary treatment processes do not remove all pollutants and are not fail safe with respect to the ones they do treat. Substances that the plant does not treat (e.g., copper, zinc, silver) are said to "passthrough" the plant and go directly into the water. Some substances can, in sufficient quantities, actually "upset" the treatment process at the plant, particularly the oxygenation process, reducing its ability to treat any substances.[18] For these reasons, if such substances pose a sufficient threat to the plant or to water quality, either additional treatment processes must carried out (tertiary treatment) or discharges into the plant must be controlled.

EBMUD also encourages the use of treated wastewater as a substitute, where possible, for drinking water. EBMUD was one of the first agencies in the West to promote the use of reclaimed wastewater for equipment washdown, lawn irrigation,[19] watering golf courses,[20] and industrial cooling.[21] In fiscal year 1991, EBMUD reduced demand for drinkable water by over 100 million gallons by using reclaimed water for

15. ALL ABOUT EBMUD, *supra* note 5, at 15.

16. *Id.* at 20.

17. *Id.*

18. Oxygenation is a delicate biological process. If it is not protected, the microbes treating the sewage die. *See* Interview with Jennifer Smith, Wastewater Control Inspector, EBMUD, in Oakland, Cal. (Apr. 20, 1992) (on file with author). Other pollutants, while not disrupting the bacterial treatment process, can force a plant to suspend treatment to protect the health of its workers. *See* JOSEPH F. DIMENTO, ENVIRONMENTAL LAW AND AMERICAN BUSINESS: DILEMMAS OF COMPLIANCE 5 (1986).

19. EBMUD is working on a project with the California Department of Transportation to irrigate the I-80 median strip with reclaimed water. WASTEWATER DEP'T, EBMUD, 1991 PRETREATMENT REPORT 1-9 (1992) [hereinafter 1991 PRETREATMENT REPORT].

20. Alameda Golf Complex, Harbor Bay Parkway, Willow Park Golf Course, and Chabot Golf Course use reclaimed water. 1991 ANNUAL REPORT, *supra* note 13, at 13.

21. A huge project to use wastewater to cool the Chevron Refinery at Richmond is underway. Rodney T. Smith & Roger Vaughn, *Effluent Water Develops a Market*, WATER STRATEGIST, Jan. 1991, at 15.

irrigation. The agency predicts that eventually up to 5400 million gallons per year of reclaimed water could be used in various ways.[22]

Sludge, a byproduct of the treatment process, can pose awkward disposal problems. Since 1983, EBMUD has marketed some of its digested sludge as a soil conditioner under the name "CompGro." It also mixes sludge with kiln dust to use as landfill cover material. In 1989, EBMUD received the Leadership in Beneficial Reuse of Sludge Award from the United States Environmental Protection Agency (EPA).[23] It has also developed an Environmental Action Plan to address cross media pollution, such as the air pollution generated in handling wastewater and solids. The agency already captures methane emitted during sludge digestion to provide sixty percent of the plant's energy requirements. The district's air emissions monitoring program received an award for research and development from the American Academy of Environmental Engineers in 1990.[24]

B. The Legal Framework of Regulation

Since EBMUD's creation in 1923,[25] the Federal Government and California have passed laws that increasingly affect its activities.

1. Federal Legislation

In 1972, Congress substantially amended the Federal Water Pollution Control Act.[26] The amendments strengthened and extended regulation of wastewater discharged by and into publicly owned treatment works (POTW's), such as EBMUD's treatment plant.[27] The CWA directs EPA to promulgate effluent and pretreatment standards.[28] Under

22. *See* OPERATING REPORT, *supra* note 13, at 12.

23. EBMUD Wastewater System (undated brochure, on file with author).

24. ALL ABOUT EBMUD, *supra* note 5, at 17.

25. *See supra* note 8 and accompanying text.

26. Pub. L. No. 92-500, 86 Stat. 816 (1972). The act is now commonly called the Clean Water Act (the CWA) and is codified as amended at 33 U.S.C. §§ 1251-1387 (1988 & Supp. IV 1992).

27. *See* Pub. L. No. 92-500, § 201, 86 Stat. 833, 833-34 (1972).

28. 33 U.S.C. §§ 1314, 1317. Effluent standards apply to sources discharging into the navigable waters or the sea. 40 C.F.R. § 122.2 (1992). Pretreatment standards apply to sources discharging into a POTW. 40 C.F.R. § 403.1 (1992). EPA was required under § 304(b) and (g) of the 1972 CWA to promulgate effluent and pretreatment standards. 33 U.S.C. §§ 1314(b), 1314(g). It was unable to meet the deadlines in the Act, however, and several environmental groups sued EPA. *See* NRDC v. Train, 8 Env't. Rep. Cases (BNA) 2120 (D.D.C. June 8, 1976). In settling that law suit, EPA agreed to regulate 65 "priority pollutants" and classes of pollutants in 21 major industries. The 1977 amendments to the CWA reflect this agreement. *See* 33 U.S.C. §§ 1317(a)-(c). Even within those categories with federal pretreatment standards, many subcategories are exempt. 40 C.F.R. § 403 (app. D) (1992). EPA excluded small sources from some other regulated categories. 40 C.F.R. § 459.10 (1992). EPA has now promulgated regulations establishing the pretreatment standards to be satisfied by many categories of dischargers into POTW's. 40 C.F.R. §§ 401-71 (1992). For a list, see 40 C.F.R. § 403, (app. C & D) (1992). The categories themselves are

section 301(a), it is unlawful to discharge any pollutant otherwise than in accordance with the Act.[29] More specifically, section 301(b) requires POTW's to meet effluent limitations promulgated under the CWA and requires sources discharging into a POTW to meet pretreatment standards.[30] The Act also directs the EPA Administrator to issue permits imposing effluent limitations and other conditions, called National Pollutant Discharge Elimination System (NPDES) permits, to sources discharging directly into rivers, bays, or the sea.[31]

Section 510 of the CWA authorizes a state to enforce federal effluent limitations, or to develop and enforce its own standards (provided they are at least as stringent as the federal standards),[32] and to operate the permit system. To operate the permit system, the state regulatory body must have certain powers and limitations.[33] Even where a state does take over parts of the permitting and enforcement program, EPA retains an oversight role.[34] The Administrator has the power to intervene and enforce compliance by a discharger where state enforcement is lacking.[35] If a POTW violates any permit conditions and the state fails to commence appropriate enforcement action, the Administrator can limit the introduction into the POTW of waste from new sources.[36] In addition, where sources discharge pollutants into a treatment plant in violation of section

based on the U.S. Bureau of the Budget's 1972 Standard Industrial Classification Manual. 1991 PRETREATMENT REPORT, *supra* note 19, at 2-1. Many substances discharged into municipal sewers or from the treatment plant could potentially fall within the definition of "hazardous waste" in the Resource Conservation and Recovery Act of 1976 (RCRA). 42 U.S.C. §§ 6901-6992k (West 1983 & Supp. 1993). "Hazardous waste" is defined at 42 U.S.C. § 6903(5). However, these substances are specifically excluded from the RCRA's requirements on the grounds that the CWA, and relevant regulations under it, deal adequately with the problem. Section 1004(27) of the RCRA provides that "solid or dissolved material in domestic sewage, or solid or dissolved materials in . . . industrial discharges which are point sources subject to" National Pollutant Discharge Elimination System permits under the Clean Water Act are not solid waste. *Id.* § 6903(27).

29. 33 U.S.C. § 1311(a). "Discharge of a pollutant" is defined to mean discharge into navigable waters or the sea. *Id.* § 1362(12). Sources coming within the regulatory program are set out at 40 C.F.R. §§ 122.1(b), 122.3 (1992).

30. 33 U.S.C. § 1311(b). EPA regulations only require larger POTW's, those receiving over five million gallons per day, to have pretreatment programs. 40 C.F.R. § 403.8(a) (1992). Approximately 1500 POTW's in the United States (about 10% of the total) have pretreatment programs, but these plants receive roughly 82% of the industrial wastewater entering all POTW's. Oliver A. Houck, *Ending the War: A Strategy to Save America's Coastal Zone*, 47 MD. L. REV. 358, 385 (1988).

31. 33 U.S.C. § 1342(a).

32. *See id.* § 1318(c).

33. *Id.* § 1342(b). These include, inter alia, the power to do the following: ensure compliance with the Act; issue permits for fixed terms; terminate permits for violations, misrepresentations, or changes in conditions; inspect, enter, monitor, and require reports; abate violations; and require permitted treatment works to identify sources of pollutants to be pretreated. *Id.*

34. *Id.* § 1314(i); *see also* 40 C.F.R. § 403.8 (1992).

35. 33 U.S.C. § 1319(a).

36. *Id.* § 1342(h). Such a limitation would curtail the POTW's ability to expand its revenue base and could create a backlash against it in the local community.

307(d), and the treatment plant takes no action, the Administrator may proceed in a civil suit against the treatment plant.[37]

2. *California Legislation*

In 1967, California created the State Water Resources Control Board (state board) to take charge of the many different aspects of water quality regulation.[38] Two years later California passed the Porter-Cologne Water Quality Control Act to regulate discharges to surface water and groundwater.[39] Nine Regional Water Quality Control Boards (RWQCB's or regional boards) were created. These regional boards report to the state board.[40] The RWQCB's develop Regional Water Quality Control Plans to set ambient water quality standards for total suspended solids, BOD, heavy metals, cyanide, phenols, and total identifiable chlorinated hydrocarbons.[41] From these plans, the regional boards work backwards to determine the discharge limits for particular sources.[42] The stricter of the resulting state limits and any applicable federal limits must be applied.[43]

In late 1972, after the CWA was enacted, California amended its statute, adding Chapter 5.5, which gives the state board and the regional boards the powers necessary to operate and enforce the CWA's permit system.[44] As a result of these changes, the state board, through the regional boards, administers and enforces both state and federal water quality laws. It issues the State Waste Discharge Requirement and the Federal NPDES permits. Although all standards are *administered* by the state, whether the particular standard is *set* at the state or federal level depends on which is more stringent. NPDES permits issued to larger POTW's by the San Francisco Bay RWQCB (the SFBRWQCB)

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37. *Id.* § 1319(f).

38. *See* William R. Attwater & James Markle, *Overview of California Water Rights and Water Quality Law*, 19 PAC. L.J. 957, 996 n.158 (1988).

39. 1969 Cal. Stat. 1051 (codified as amended at CAL. WATER CODE §§ 13000-14050 (West 1992 & Supp. 1993)).

40. CAL. WATER CODE § 13200. The state board was recently brought under the umbrella of the newly formed California Environmental Protection Agency. CAL. GOV'T CODE § 12812 (West 1992).

41. Telephone Interview with Selina Tam, Water Resources Control Engineer, S.F. Bay RWQCB (May 3, 1993) (on file with author). The CWA requires that these plans must meet guidelines established by the EPA Administrator. 33 U.S.C. § 1313(a).

42. The current plan of the San Francisco Bay RWQCB (the SFBRWQCB) is the 1986 Water Quality Control Plan, S.F. Bay Basin (state board, 1986). The SFBRWQCB has proposed amendments to this plan, "Basin Plan Amendments," adopted by Resolution 92-117 of the SFBRWQCB on Sept. 16, 1992 [hereinafter 1992 Water Quality Control Plan].

43. 33 U.S.C. §§ 1318(c) & 1313(d); 40 C.F.R. § 131 (1992). *See* CHARLES J. MEYERS & A. DAN TARLOCK, WATER RESOURCE MANAGEMENT 934 (2nd ed. 1980).

44. 1972 Cal. Stat. 2485 (codified as amended at CAL. WATER CODE §§ 13370-89 (West 1992)).

are conditioned on the POTW's imposing and enforcing the pretreatment standards.

EBMUD's permit is thus a combination of the State Waste Discharge Requirement and the Federal NPDES limits. The permit not only imposes effluent standards on EBMUD's effluent, but also requires EBMUD to issue permits to dischargers into the treatment works, to set standards in accordance with the federal pretreatment standards, and to enforce those standards.[45]

C. *History of EBMUD's Source Control Program*

Sources discharging into a POTW do not come within the prohibition of CWA section 301(a).[46] However, in accordance with CWA section 307(b),[47] EPA has produced pretreatment standards for those categories of sources containing the larger and more severe polluters.[48] In 1972 EBMUD enacted Wastewater Control Ordinance 270 and began its Source Control Program pursuant to its NPDES permit. In 1990, this ordinance was superseded by Ordinance 311.[49]

Ordinance 311 prohibits or regulates various types of discharges into the sewer[50] and provides for the issuance of permits.[51] It imposes specific wastewater pretreatment standards for discharges by industries in categories for which EPA has developed standards and sets out penalties for violations.[52] Although in theory all sources are subject to the effluent limitations in Ordinance 311, the ordinance only requires certain categories of businesses[53] to obtain a permit before discharging into the sewers, and empowers the EBMUD Manager of Source Control to require pretreatment, monitoring, inspections, record-keeping, and sampling as a condition for issuing a permit.[54] Despite the general limitation, however, in practice a non-permitted source discharges what it likes and pays wastewater rates based on its category and the volume it discharges. EBMUD uses permitting to exercise closer control over particular sources and to raise funds to pay for that control. Permits typically restrict what can be discharged, provide for unannounced

45. NPDES Permit No. CA 0037702, issued by the SFBRWQCB [hereinafter NPDES Permit].

46. *See* 40 C.F.R. § 122.3(c) (1992).

47. 33 U.S.C. § 1317(b).

48. 33 U.S.C. § 1311(a); 40 C.F.R. § 403, app. C (1992).

49. EBMUD, Ordinance 311 (effective Feb. 1, 1990) [hereinafter Ordinance 311].

50. *Id.* tit. II.

51. *Id.* tit. IV.

52. *Id.* Headnote.

53. Businesses in categories for which pretreatment regulations have been issued usually are automatically required to obtain a permit from EBMUD. *Id.* tit. IV, § 1(a)(1).

54. *Id.* tit. IV. Permit conditions may be varied from time to time, "as circumstances require," and may be terminated for violation of the terms of the permit. *Id.* § 4. Permits shall be terminated for excess discharge. *Id.* § 6.

inspections, and require reports and immediate notification of a spill. They may also specify that if the facility does not install certain processes, EBMUD may plug the drain. The permit holder pays an annual fee, which reflects the administration and inspection costs of the permit.[55]

Beginning in 1972, EBMUD permitted all the large businesses in Special District No. 1 that fell into the categories for which EPA had prepared pretreatment standards.[56] In addition, EBMUD required other significant users to obtain permits.[57] As of 1991, seventy-nine businesses in EPA categories and another forty-five significant users had permits.[58] Pretreatment permits require these sources to remove or treat certain substances before releasing wastewater into the sewer. In addition to self-monitoring, the permits call for a minimum of four, and sometimes as many as twenty, inspections per year. The cost of these inspections is included in the permit fee.[59]

These permits cover most of the influent of substances of concern. The EBMUD pretreatment program for large sources reduced the volume of heavy metals discharged into sewers by eighty-five percent.[60] In October 1989, EBMUD received EPA's National Pretreatment Excellence Award for large wastewater treatment facilities.[61] There have been no instances of upset or passthrough at the plant due to industrial discharges.[62]

D. Pressure to Improve

EBMUD began its small source control program in 1989.[63] The program aims to require or encourage modification of operations so that wastes can be prevented, recycled, rendered less toxic, or reduced in vol-

55. Permits are a common way to regulate ex ante. Conditions can be modified from person to person, within whatever legislative limits exist. For a discussion and contrast of ex post and ex ante regulations, see Robert Kagan, *Understanding Regulatory Enforcement*, 11 LAW & POL'Y 89, 96-98, 102 (1989). For a comparative analysis of ex ante regulation and ex post liability, see generally Steven Shavell, *Liability for Harm Versus Regulation of Safety*, 13 J. OF LEGAL STUD. 357 (1984) (comparing tort liability with safety regulation).

56. ALL ABOUT EBMUD, *supra* note 5, at 17.

57. The manager is authorized to determine that other businesses require permits. Ordinance 311, *supra* note 49, tit. IV, § 1(a)(5).

58. 1991 PRETREATMENT REPORT, *supra* note 19, at 5-2.

59. 1992 PRETREATMENT REPORT, *supra* note 2, at 7-1.

60. OPERATING REPORT, *supra* note 13, at 23.

61. *The U.S. EPA's 1989 National Pretreatment Award of Excellence to be presented to EBMUD*, BUS. WIRE, Oct. 11, 1989, *available in* LEXIS, Nexis Library, BUS File. The awards are issued under 33 U.S.C. § 1361(e).

62. 1990 PRETREATMENT REPORT, *supra* note 13, at 1-2; 1991 PRETREATMENT REPORT, *supra* note 19, at 3-1. There has been one upset due to salt water incursion. Telephone Interview with Bill Meckel, Wastewater Control Representative, EBMUD (May 15, 1992) (on file with author) [hereinafter Interview with Bill Meckel I].

63. 1990 PRETREATMENT REPORT, *supra* note 13, at 1-4.

ume.[64] It targets sources for which, on the whole, there are no existing federal or state pretreatment regulations. As will be seen, EBMUD has expended considerable effort on this program.

1. Regulation of Small Businesses and Political Science Theory

Why did EBMUD decide to regulate small sources? This initial question is an important part of a broader issue that has concerned political scientists examining enforcement: What factors determine whether an agency will make a serious attempt to control an industry's behavior?[65]

Political scientists predict that agencies will be reluctant to regulate small businesses, or to allocate many resources for the task, because of the inherent difficulties and small returns compared to large source regulation. Because large sources are highly visible, they are easy to find.[66] Because they are few in number, they are easy to monitor. They are generally economically viable, so they can afford to employ specialists and invest in compliance technology.[67] Large sources are generally concerned about their reputation,[68] and they may want to maintain good relations with regulators to avoid problems on future projects.[69] As a result, some large companies have staff who have loyalties to environmental standards and ethics and who can readily communicate with regulators.[70]

Small sources, on the other hand, can be hard to find. Once found, they may resist regulation more than large sources do.[71] Small sources tend to be more marginal operations, and therefore may be unable to afford the measures necessary for compliance.[72] It is expensive to permit and monitor them relative to the amount of waste reduction achieved from each. At the same time, compliance costs will tend to represent a larger proportion of their capital and time than in a larger business. Small sources are also less sophisticated about regulation. With less education and fewer informational resources, they may have trouble under-

64. OPERATING REPORT, *supra* note 13, at 24. The 1991 Water Quality Control Plan, *supra* note 101, at IV-21 identifies waste minimization audits of significant industrial users as part of a waste minimization plan.

65. For a brief review of the literature on this point, see Neil Gunningham, *Negotiated Non-Compliance: A Case Study of Regulatory Failure,* 9 LAW & POL'Y 69, 69-70 (1987).

66. *See* Kagan, *supra* note 55, at 103.

67. EUGENE BARDACH & ROBERT A. KAGAN, GOING BY THE BOOK: THE PROBLEM OF REGULATORY UNREASONABLENESS 62-63, 169 (1982). *See also* DIMENTO *supra* note 18, at 155 (citing other sources).

68. DIMENTO, *supra* note 18, at 156.

69. BARDACH & KAGAN, *supra* note 67, at 61.

70. *Id.* at 61-62.

71. Kagan, *supra* note 55, at 103.

72. *See* DIMENTO, *supra* note 18, at 156.

standing the laws,[73] the nature of the environmental problem, and why such small contributors are being regulated. They are also less likely than large sources to have institutional arrangements to ensure compliance[74] or to be as concerned about their reputation. Typically small sources operate in a very competitive market. Their customers are readily able to switch businesses, or even to undertake the operation themselves. This business environment makes small sources very sensitive to anything that affects their bottom line in relation to their competition, increasing the temptation to avoid compliance.[75]

Administratively, enforcement of small businesses can also be harder to manage. Inspectors encounter more personalities and more paperwork. The result is lower regulatory productivity and sometimes more stress. Employees or owners may not speak English well.[76] At a small business, the regulator deals with the boss, who will be more concerned with production and may see government regulation only as an unnecessary obstacle.[77] For all this extra effort, the regulator is likely to find fewer violations per inspection-hour at scattered small sources than at a single large one, because of the travel time required.[78] Moreover, although an agency may have good chances of succeeding in a lawsuit against a small company, due to smaller firms' limited legal and political resources,[79] the public is likely to be less concerned with prosecutions of small companies and the prosecutor will obtain less political reward.[80] For all of these reasons, regulators have tended to avoid regulation of small businesses. Nevertheless, EBMUD has taken on this challenge.

2. *Increasing Stringency of Regulations of POTW's*

Although EBMUD's behavior seems to contradict the predictions derived from the political science literature, there is a pragmatic explanation for its behavior. On the one hand, EBMUD itself must meet regulatory standards imposed on its effluent, air emissions, recycled water, and sludge. Some of these standards are in the process of being lowered still further. On the other hand, POTW's in the Bay area have been required

73. *See* Kagan, *supra* note 55, at 103; DIMENTO, *supra* note 18, at 156.

74. DIMENTO, *supra* note 18, at 187; *see also* Kagan, *supra* note 55, at 103. *See generally* Neal Shover et al., *Regional Variation in Regulatory Law Enforcement: The Surface Mining Control and Reclamation Act of 1977, in* ENFORCING REGULATION 121 (Keith Hawkins & John M. Thomas eds., 1984) (comparing regional differences in regulatory styles and their effectiveness in enforcing the Surface Mining Control and Reclamation Act of 1977, 40 U.S.C. §§ 1201-1328 (1988 & Supp. IV 1992)).

75. *See* Kagan, *supra* note 55, at 104.

76. DIMENTO, *supra* note 18, at 156.

77. *See* Shover et al., *supra* note 74, at 130-37.

78. BARDACH & KAGAN, *supra* note 67, at 169.

79. Gunningham, *supra* note 65, at 89. *But cf.* BARDACH & KAGAN, *supra* note 67, at 169 (arguing that judges are more likely to impose sanctions against large firms).

80. *See* BARDACH & KAGAN, *supra* note 67, at 169.

by the regional board to develop plans for reducing influent and specifically to target small sources in this plan. Examining these pressures on EBMUD in more detail will help explain not only its attention to small sources, but also its focus on particular aspects of particular sources.

First, because EBMUD is itself subject to regulation, it is very sensitive to discharges, even from small sources. Some sources still discharge substances that passthrough or threaten to upset the treatment plant. Not all industry categories have pretreatment standards.[81] Passthrough already poses problems because EBMUD is close to the NPDES limitations on its own effluent for some substances. The stricter whole-effluent and chemical-specific toxicity limits now being added to NPDES permits threaten to exacerbate this problem.[82] In addition, the regional board will soon further lower the limits on POTW discharges of copper[83] and is expected to examine silver levels in the East Bay once discharges in the South Bay have been reduced.[84] Approximately sixty percent of current copper and zinc influent at EBMUD comes from small sources.[85]

Second, the treatment of wastes discharged into the POTW can cause air emissions that violate the Clean Air Act.[86] For example, the presence of large quantities of methylene chloride and tetrachloroethylene/perchlorethylene ("perc") in the treatment process can lead to the release of chlorine gas (an ozone precursor) into the atmosphere.[87] The district expects to become subject to more stringent air quality regulation by 1996.[88]

Third, unlike wastewater, sludge produced by the treatment process is not excluded from RCRA.[89] Pretreatment regulations imposed on

81. *See supra* note 28 and accompanying text.

82. OFFICE OF ENFORCEMENT, U.S. ENVTL. PROTECTION AGENCY, ENFORCEMENT FOUR-YEAR STRATEGIC PLAN: ENHANCED ENVIRONMENTAL ENFORCEMENT FOR THE 1990'S, at 32 (1991). "Whole-effluent" toxicity involves examining the effect of toxic substances acting together. Some proposed chemical-specific standards are contained in the 1992 Water Quality Control Plan, *supra* note 42, part 1.II.A.

83. 1992 PRETREATMENT REPORT *supra* note 2 at 12-29, 12-31; Interview with N. Jo Chapman, Wastewater Control Representative, EBMUD, in Oakland, Cal. (Apr. 23, 1992) (on file with author) [hereinafter Interview with N. Jo Chapman I]; Interview with Selina Tam, *supra* note 41.

84. Telephone Interview with Cynthia Chapman, Wastewater Control Representative, EBMUD (May 18, 1992) (on file with author) [hereinafter Interview with Cynthia Chapman I].

85. Telephone Interview with N. Jo Chapman, Wastewater Control Representative, EBMUD (May 15, 1992) (on file with author) [hereinafter Interview with N. Jo Chapman II]. Stricter silver, copper, and zinc limits and whole-effluent and chemical-specific toxics limits had not been set as of May 1993. Telephone Interview with Blair Allen, Associate Water Resources Control Engineer, SFBRWQCB (Apr. 30, 1993) (on file with author).

86. 42 U.S.C. §§ 7401-7611q (1988 & Supp. III 1991).

87. *See* 1990 PRETREATMENT REPORT, *supra* note 13, at 1-8; Interview with Jo Chapman II, *supra* note 85.

88. 1991 PRETREATMENT REPORT, *supra* note 19, at 1-8.

89. 42 U.S.C. § 6903(27) (1988). *See supra* note 26.

sources discharging into the POTW are partly designed to remove hazardous substances, which would otherwise be collected in the sludge.[90] Untreated influent from smaller sources, however, can still contaminate the sludge. If the sludge becomes sufficiently contaminated to fall within RCRA, it will be harder to compost and sell, or even simply to dispose of in a landfill.[91]

Finally, EBMUD's ability to produce recycled water of adequate quality can be affected by substances in the wastewater. On March 20, 1991, the regional board passed an order tightening reclaimed wastewater standards and requiring POTW's to document compliance with these standards and other limitations.[92]

These four factors pressure EBMUD to improve its effluent and air emissions and to reduce the number and quantity of hazardous substances entering the sludge and wastewater. EBMUD could protect its plant and reduce effluent discharges further by building more processes into its treatment. By the time threatening substances reach the plant, however, they are mixed in with all the other industrial and sanitary waste and are so diluted that a huge (and very expensive) industrial waste pretreatment plant would be needed.[93] To control the air emissions at the plant would also require further multimillion-dollar additions.[94] Generally it is much easier and cheaper to reduce what goes into the sewer than to treat it at the receiving end of the pipe.[95] Because larger sources are already heavily regulated and are in compliance with existing influent standards, the smaller sources that are not in compliance provide EBMUD one obvious target for further improving its influent.

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90. *See* Barry Kellman, *The Seventh Circuit on the Environmental Regulation of Business*, 65 CHI.-KENT L. REV. 757, 791 (1989).

91. Telephone Interview with Professor Lisa Alvarez-Cohen, Department of Environmental Engineering, University of California, Berkeley (Mar. 10, 1993) (on file with author).

92. SFBRWQCB, Order 91-042, Water Reuse Requirements and Self-Monitoring Program for Water Reuse Requirements (Mar. 20, 1991) (on file with author).

93. Interview with Jennifer Smith, *supra* note 18; It is interesting to note, however, that three South San Francisco Bay Area POTW's have installed tertiary treatment and are apparently not pursuing small business regulation. Jeff Thacker, The Problem with Government Regulating Government: A Case Study of Toxic Pollution in South San Francisco Bay 39 (Apr. 16, 1993) (unpublished manuscript, on file with the *Ecology Law Quarterly*). Although they do not currently have a small source program, they will be required to implement one in their next NPDES. Telephone Interview with Bill Klokke, Source Control Supervisor, South Bayside System Authority (May 7, 1993) (on file with author). It will involve mainly education and outreach, not permitting, at this stage.

94. Interview with N. Jo Chapman I, *supra* note 83.

95. Telephone Interview with Greg Arthur, Pretreatment Enforcement, Region IX, U.S. Envtl. Protection Agency, (Mar. 13, 1992) (on file with author); Interview with Jennifer Smith, *supra* note 18; Interview with N. Jo Chapman I, *supra* note 83. Some of the large treatment works in the Bay Area, including EBMUD, are also looking at residential sources for copper in pipes. Interview with Michael Chee I, *supra* note 2. *See also* 1992 PRETREATMENT REPORT, *supra* note 2, at 1-8.

3. *Waste Minimization*

A second factor inducing EBMUD to regulate small sources is a regional board requirement that POTW's develop plans, which must include measures relating to small sources, for waste minimization. Waste minimization (also called pollution prevention) has received growing attention over the last two decades.[96] EBMUD defines waste minimization as "an activity which eliminates or reduces the amount of any hazardous substance from entering the waste stream or the environment. This may include a change in raw materials, operational improvement, process improvement, product reformulation, reuse or reclamation."[97]

Although waste minimization is not currently required by any federal or state *water* legislation, the regional board has developed a two-tiered waste minimization program, focused on POTW's and major industrial dischargers.[98] The *targeted* waste minimization program

96. The 1977 CWA amendments required EPA to develop information about waste minimization. 33 U.S.C. § 1294 (1988) (added by Pub. L. No. 95-217, sec. 38, § 214, 91 Stat. 1581, 1581 (1977)). Section 1254(b) also required waste minimization to be included as a factor in the grants program. The Pollution Prevention Act of 1990 made pollution prevention national policy. 42 U.S.C. §§ 13101-09 (Supp. III 1991). The first federal legislation to require waste minimization was the Hazardous and Solid Waste Amendments of 1984, Pub. L. No. 98-616, 98 Stat. 3232 (1984), reauthorizing and amending RCRA. 42 U.S.C. §§ 6922(b), 6925(h) (1988).

EPA has begun instituting this policy. Telephone Interview with Madonna Narvas, Permitting, Region IX, U.S. Envtl. Protection Agency (Mar. 10, 1992) (on file with author). *See, e.g.*, 58 Fed. Reg. 16,664 (1993). For a discussion of EPA action and powers with respect to pollution prevention under the CWA and RCRA, see Bradley C. Bobertz, *The Tools of Prevention: Opportunities for Promoting Pollution Prevention Under Federal Environmental Legislation*, 12 VA. ENVTL. L.J. 1 (1992). EPA wastewater policy establishes the following order of priorities: prevention, recycling, treatment, and disposal. 58 Fed. Reg. 16,664, 16,667 (1993). Pollution prevention is widely considered to be a more cost-effective regulatory strategy than pollution control. It makes processes more efficient, reduces inputs, and decreases disposal costs. *See, e.g.*, Stephen M. Johnson, *From Reaction to Proaction: The 1990 Pollution Prevention Act*, 17 COLUM. J. ENVTL L. 153 (1992). SFBRWQCB, Waste Minimization (April 29, 1993) (in-house training document, on file with author) [hereinafter Waste Minimization Notes]; *Reducing, Recycling Most Cost Effective, Report Says*, 23 Env't Rep. (BNA), at 1562 (Oct. 9, 1992).

97. 1990 PRETREATMENT REPORT, *supra* note 13, at 2-3. Bradley Bobertz gives a more explicit description:

> [I]ndustrial pollution prevention can be achieved through a number of methods, including *input substitution*, such as the substitution of water-based for solvent-based surface coatings, *product reformulation*, such as changing the way a product is packaged, *process changes*, such as pre-sensitizing surfaces with an electro-static agent to cut down on paint oversprays and the need for cleaning solvents, *closed-loop recycling*, such as recirculating cooling water in a closed system or recapturing feedstock, and *improved maintenance and housekeeping*, such as instituting a program of regular inspection and maintenance of critical equipment.

Bobertz, *supra* note 96, at 2 n.6. *See also* Johnson, *supra* note 96, at 157. EPA's definition is similar to Bobertz's. 58 Fed. Reg. 16,664, 16,667 (1993). All these definitions are based on the definition of "source reduction" in the Pollution Prevention Act. 42 U.S.C. § 13102(5).

98. 1992 Water Quality Control Plan, *supra* note 42, pt. 3. This program was adopted in response to the state board's Mass Emissions Strategy for the San Francisco Bay Region. This plan requires the regional board to limit toxic pollutants emissions (largely heavy metals) into

amends the permits of POTW's that violate their NPDES permit limits or that discharge into areas not in compliance with water quality objectives; the amended permits require these POTW's to implement a waste minimization program.[99] A second *general* waste minimization program requires POTW's that are not in violation, and that discharge more than ten million gallons per day, to prepare plans for waste minimization.[100] This second program applies to EBMUD. Finally, thirteen smaller POTW's are required to develop plans at a later stage.[101]

There is no strict requirement that POTW's covered by the general program implement their waste minimization plans. Neither their permits[102] nor the regional water quality control plan require such implementation.[103] However, it is likely that implementation of waste minimization plans will be required at some stage in the future and EBMUD's policy seems generally to remain ahead of new regulation.

4. *Conclusion*

Contrary to the predictions deduced from the political science literature, EBMUD began an ambitious plan to regulate small sources. The agency's experience, however, does not necessarily disprove these predictions. In fact, to a certain extent, it confirms them. EBMUD only brought resources to bear on small sources because of two specific pressures imposed on the agency from the outside: first, the imminent tightening of water and air limitations imposed on its plant; second, the

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the water. *Id.*

99. Under this program, POTW's do not in general mandate technology or limits for small sources as part of a waste minimization program, but offer them information and incentives (such as publicity) if certain standards are met. Such a program has been introduced for some commercial facilities such as auto repair shops and car washes. Interview with Selina Tam, *supra* note 41.

100. Thirteen POTW's, including EBMUD, and seven major industrial sources discharging directly into the Bay were required to develop these plans by July 1992. Letter from SFBRWQCB to mailing list (April 22, 1992) (on file with author) [hereinafter Letter to mailing list]. The program was implemented by a formal letter of request. *Id.* All the plans have been submitted. Interview with Selina Tam, *supra* note 41.

101. Letter to mailing list, *supra* note 100. These waste minimization plans must identify two categories (e.g., waste oil disposal, car and truck washing, medical and dental facilities, paint and related product disposal, drycleaning, and photofinishing) of previously unregulated commercial dischargers. SFBRWQCB, Water Quality Control Plan IV-22 (Dec. 1991) [hereinafter 1991 Water Quality Control Plan].

102. EBMUD's effluent permit only requires pretreatment. Telephone Interview with Michael Chee, Associate Water Resources Control Engineer, SFBRWQCB (Mar. 13, 1992) (on file with author).

103. *See* 1992 Water Quality Control Plan, *supra* note 42; Interview with Selina Tam, *supra* note 41. Several other POTW's have implemented their plans. For example, Central Contra Costa Sanitary District now regulates drycleaners for perc discharges, has introduced an award scheme for photoprocessors and radiator repair shops, and has conducted studies of and outreach programs for residential sources. Waste Minimization Notes, *supra* note 96. The City of San Francisco has also implemented an extensive program. Interview with Selina Tam, *supra* note 41.

regional board's requirement that EBMUD develop a waste minimization plan addressing smaller sources.

Pressure imposed on an operating agency by its need to meet performance standards seems to have two advantages over the political and legal pressures[104] that can be brought to bear on a purely regulatory agency. First, EBMUD has an incentive to pursue regulation seriously, rather than for public relations purposes—as might be the case for an agency responding to a citizen suit. Impressive looking but inefficient programs will not help an operating agency satisfy the demands of its monitoring agency. Second, because EBMUD is acting in advance of specific constraints, it has room to decide how best to comply with these standards.

In approaching the problem of regulating small businesses, EBMUD used the same legal and institutional tools that it has always used. When regulators turn to small businesses, however, they face a new type of challenge and must adopt a different approach to regulation. Permitting, inspection, and enforcement must evolve to meet this altered task effectively. These issues are discussed next.

II
CASTING THE NET—PERMITTING SMALL BUSINESSES

In establishing a regulatory regime to cover small sources, the first issue is determining how to bring the sources within the net of regulation. Where the agency has discretion, as has so far been the case with the small sources, it must decide which sources to regulate and how to set and impose standards. The first section of this part reviews the evolution of EBMUD's process for permitting small sources. The next five sections survey EBMUD's experience in permitting electroplaters and metal finishers, radiator repair shops, drycleaners, commercial photoprocessors, and auto repairers to identify the particular concerns a regulator should be conscious of in permitting small sources. These examples demonstrate different problems and highlight different aspects of the permitting process. In the last two sections of this part I draw some conclusions about what has been, and may be, learned from EBMUD's experience.

A. The Small Source Control Program

The process of deciding which industries to permit and how to permit them determines where a significant amount of agency and industry resources will be allocated.[105] Accordingly, it is important to design the

104. Such pressures include congressional hearings and citizen suits; both have often been a motivating factor behind agency action. EBMUD has not been subject to these high profile forms of pressure. Citizen suits remain a threat if standards are not maintained, but the pressures listed in the prior sections are much more prevalent.

105. For example, one may look to the changes in EBMUD over the last decade. In 1984,

process of permitting new industries so as to identify and concentrate on those industries emitting pollutants of the greatest concern.

EBMUD can readily determine the pollutants of particular concern. Identifying which small businesses discharge these pollutants is more difficult, however. Unlike large dischargers, individual small sources usually do not discharge enough to call attention to themselves. Accordingly, one reason for permitting photoprocessors[106] was simply to find out how much silver they discharged. Although EBMUD knows (by process of elimination) that sixty to seventy percent of its copper and zinc influent comes from small sources, it still does not know from which ones.

An agency's process for deciding how to issue permits, and to whom, is also important because it can either encourage or discourage industry cooperation. Given ubiquitous resource constraints, once an agency decides to regulate an industry, effective command and control regulation relies to a large degree on cooperation and voluntary compliance by the regulated subjects. As Bardach and Kagan explain, "[e]xperienced regulators acknowledge that if most regulated enterprises were inclined to comply only when the threat of inspection and punishment was imminent, then the entire regulatory program would quickly collapse."[107] Thus, if an agency appears to impose regulation arbitrarily, there will be resentment, and the regulatory task will be more difficult on at least two levels. First, without an adequate process, the regulations may be ineffective and burdensome, engendering resistance. Second, regardless of the quality of the regulations, the agency's attitude may antagonize industry. Thus, it is important that the agency develop a

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EBMUD had three reps and six inspectors. In 1992 it had seven reps and 11 inspectors, with plans to hire two more of each. Telephone Interview with Bill Meckel, Wastewater Control Representative, EBMUD (May 1, 1992) (on file with author) [hereinafter Interview with Bill Meckel II]. This increase was due mainly to the small source program. When smaller metal finishers were permitted in 1984, the number of permits increased by over 50%. *Id.* However, such increases in the agency's workload do not necessarily lead to a correspondingly large decrease in pollutant discharges. The permitting of the small metal finishers, for example, improved effluent quality by only five percent. *Id.*

From the small sources' point of view, regulation has necessitated the purchase of thousands of dollars worth of equipment. The sources also must pay for equipment maintenance, permit fees, and offhauling of any wastes they cannot discharge. *See generally infra* parts II.B.-F.

106. *See infra* part II.E.

107. BARDACH & KAGAN, *supra* note 67, at 60. *See also id.* at 123; James R. Moore & David Dabroski, *EPA Environmental Auditing Policy and Federal Criminal Enforcement*, C617 A.L.I.-A.B.A. 207, pts. II-III (April 11, 1991), *available in* WESTLAW, ALI-ABA Database; DAVID VOGEL, NATIONAL STYLES OF REGULATION: ENVIRONMENTAL POLICY IN GREAT BRITAIN AND THE UNITED STATES 191 (1986). Regulation by taxation or permit schemes also requires cooperation. *See* DIMENTO, *supra* note 18, at 88. For a discussion regarding the cost of regulating market schemes, see Carol M. Rose, *Rethinking Environmental Controls: Management Strategies for Common Resources*, 1991 DUKE L.J. 1, 28. Where continuous remote monitoring is possible, cooperation is not so necessary.

process that both ensures a high quality regulation and brings industry "on side," as far as possible.

Federal regulations do not require EBMUD to follow any formal rulemaking procedure in setting its regulatory standards.[108] EBMUD has not established procedures for setting new standards, and its regulators have exercised a large degree of discretion in this area. The procedure that regulators follow, however, will significantly impact the attitude of the industry and the contents of the regulations.

EBMUD regulates small sources by issuing them permits specifying wastewater standards or pretreatment technology.[109] In 1990, EBMUD issued 167 permits to control pollutants from radiator repair shops, drycleaners, and commercial photoprocessors.[110] In 1992, EBMUD issued 245 permits to auto repairers.[111] By the end of the 1992 fiscal year, 438 permits were current for commercial sources.[112] The district plans to extend the program to control the above types of business completely, and to add car washes, medical X-ray laboratories, other laboratories and printers.[113]

B. Metal Finishers and Electroplaters

EBMUD began permitting small metal finishers and electroplaters[114] in 1984, several years before it began its small source regulatory program. The agency had already required permits for larger businesses in these categories, in accordance with EPA regulations.[115] Despite the fact that EPA regulations also required that small businesses in these categories have permits, however, EBMUD had not issued such permits prior to 1984.[116] Around that time, EBMUD began to worry that EPA and environmental groups might sue if it did not proceed with permitting.[117] Given the existence of the federal legal obligations and

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108. Ordinance 311, *supra* note 49, tit. VI, §§ 1-2. EBMUD does not fall within the definition of "agency" in the Administrative Procedure Act, 5 U.S.C. § 551(1) (1988), and CWA procedural requirements, in 33 U.S.C. § 1251(d) (1988), apply only to the "Administrator" (i.e., the Administer of the U.S. EPA per 33 U.S.C. § 1251(d)). Procedural requirements set out in the federal regulations apply only to EPA and state board proceedings. 40 C.F.R. § 122.1(e) (1992).

109. *See* Ordinance 311, *supra* note 49, tit. IV.

110. 1991 PRETREATMENT REPORT, *supra* note 19, at 1-6.

111. 1992 PRETREATMENT REPORT, *supra* note 2, at 1-4.

112. *Id.* at 12-52.

113. 1991 PRETREATMENT REPORT, *supra* note 19, at 1-7.

114. Although metal finishers and electroplaters use slightly different processes, this article uses the terms "metal finishers," "electroplaters," and "platers" interchangeably.

115. 40 C.F.R. § 413 (1992) (electroplaters); 40 C.F.R. § 433 (1992) (metal finishers).

116. Interview with Bill Meckel II, *supra* note 105.

117. *Id.* To some extent the pressure on EBMUD to regulate small platers was thus different from (and more traditional than) the broader pressure to implement a full-scale small source program. *See supra* note 104 and accompanying text.

Citizen suit provisions are found in 33 U.S.C. § 1365 (1988). The 1977 amendments had

standards, EBMUD did not invite industry to help develop the program. It simply wrote and issued permits with the appropriate effluent standards. The mandatory EPA standards gave EBMUD a ready response to sources who complained about the new requirements.

EPA based the effluent standards on what was achievable with the available technology, but neither EPA nor EBMUD specified how those limitations were to be met. The sources could achieve the standards through any combination of pretreatment and waste minimization. Although pretreatment involved significant capital costs and ongoing disposal fees for the metal sludges, many platers chose that alternative in 1984 because it appeared to be a "black box" that would solve all their pollution problems.[118]

The central feature of waste minimization, on the other hand, is "dragout" control. During the plating process, platers put items into a heated plating bath. Traditionally, platers would transfer the item directly from the plating bath to a flowing rinse, washing all the excess plating solution—the dragout—into the sewer. Depending on the plater's specialization, the resultant rinse flow would contain zinc, lead, copper, or other metals.[119] To reduce the discharge of dragout, platers transfer the item from the plating bath into a series of stagnant baths, each more diluted than the previous one. The plating bath water evaporates over time. The plater takes water from the first stagnant bath to fill the plating bath, from the second stagnant bath to fill the first, and so on, until the last bath. Only the rinse from the last bath, in which the concentration of metals has been reduced to a few parts per million, is discharged into the sewer. In this way almost all the metals washed off are recycled into the process, and much less water is used. While this process has high initial costs because of the extra tanks and space required, it also creates substantial savings. Operating costs under waste minimization have stayed constant over time.

Both the pretreatment and waste minimization processes involve some discharge[120] and therefore require inspections and sampling. Waste minimization has proven the more reliable method, however, and now EBMUD inspects sources that choose waste minimization only once

specified July 1, 1984 as the date by which pretreatment limitations for listed pollutants were to be implemented. 33 U.S.C. § 1311 (1988).

118. Interview with Bill Meckel II, *supra* note 105. Since then disposal costs have increased greatly, and sources have realized that properly maintaining the disposal infrastructure requires one-half to one person per day. *Id.*

119. Telephone Interview with Bill Meckel, Wastewater Control Representative, EBMUD (Apr. 23, 1992) (on file with author) [hereinafter Interview with Bill Meckel III]. These metals may be toxic or capable of upsetting the plant process, or both. *See supra* note 18 and accompanying text.

120. Zero discharge is very hard for platers, because their final product has to be quite clean. Interview with Bill Meckel I, *supra* note 62.

or twice annually. Sources using pretreatment, on the other hand, face at least four inspections per year. A full sampling and inspection permit can cost up to $6000 per year for sources using pretreatment.[121]

In 1984, EBMUD issued approximately forty-five permits to small platers,[122] an increase of nearly forty percent over previous years.[123] The additional permits demanded significantly more of EBMUD's resources while imposing a large expense on the platers. Although many discharge violations have occurred, they have mainly resulted from unforeseen error or failure of the treatment unit or employees,[124] rather than willful noncompliance.[125] As of 1992, the program had reduced heavy metal influent to the plant by about five percent from 1972 levels.[126]

The permitting of the platers shows how relatively straightforward it is for an agency to permit small sources and to set particular standards when it has a clear and enforceable legal obligation to do so. EBMUD permitted the platers, however, when there was little information about the relative costs of different methods of reducing wastes in the discharge. As a consequence, many of the sources installed expensive and cumbersome discharge limitations. Although it has not undermined the competitiveness of these sources due to certain characteristics of the plating market,[127] the expense nevertheless causes resentment among the sources. The permitting of platers also shows that, while it can be easier to gain industry acceptance for new regulation where the agency itself acts under legislative compulsion, the resultant regulations may not necessarily be the most efficient way of reducing pollution. There is a trade-off between cooperation and efficiency.

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121. Interview with Bill Meckel III, *supra* note 119.

122. Interview with Bill Meckel I, *supra* note 62.

123. Interview with Bill Meckel II, *supra* note 105.

124. *Id.*

125. EBMUD brought judicial civil proceedings against one plater, however, in the course of which the owner went out of business. The agency referred another to the Oakland Police Department for criminal prosecution. Interview with Bill Meckel II, *supra* note 105; Interview with Bill Meckel III, *supra* note 119. *See infra* note 373 and accompanying text (regarding the results of those proceedings).

126. *See* Interview with N. Jo Chapman II, *supra* note 85. EBMUD has recently gone back to the platers in an effort to wring more reductions from them. In September 1990, the district modified existing permits to require the sources to submit a Waste Minimization Opportunity Assessment Report by March 1, 1991. This effectively moved up requirements imposed by the California legislature. Interview with Bill Meckel II, *supra* note 105. *See* California Hazardous Waste Source Reduction and Management Review Act, CAL. HEALTH & SAFETY CODE §§ 25244.12-44.24 (West 1992 & Supp. 1993). Apparently several implemented waste minimization alternatives as a result of the assessment. 1991 PRETREATMENT REPORT, *supra* note 19, at 1-7.

127. Because most electroplaters specialize in a particular type of plating, there is not a high degree of competition. Interview with Bill Meckel II, *supra* note 105.

C. Radiator Repair Shops

When a customer brings a leaky radiator to the radiator repair shop, the shop pressure tests the radiator in a tank of water to locate the leak. The staff then cleans the radiator, disassembles it, and cleans it further. The initial cleaning, often done in a boil-out tank, uses a hot, caustic solution. The shop flushes the radiator with high pressure water and then repairs it above and in the testing tank.[128] Historically, shops ran the flushing water straight into the sewer and periodically would also discharge the testing water. A few shops dumped their boiling tank water into the sewer as well. Through these various processes, radiator shops discharged large quantities of heavy metals,[129] including lead, copper and zinc.[130]

EBMUD's true small business program began with the radiator repair shops. At most, these sources discharge 1000 gallons per day (gpd)—far less than the volume discharged by a small plater.[131] There were fifteen shops in the district in 1989. The shopowners realized that their wastewater was significantly out of compliance with EBMUD ordinances, and that this was a problem.[132] EBMUD took samples at the shops, talked with the owners, and learned about their processes. It discovered equipment that would readily enable the shops to recycle all of their water. Although costly, this equipment brought a water conservation benefit and reduced the shops' hazardous waste management burden.[133] The recycling process leads to zero discharge;[134] EBMUD was particularly happy about the feasibility of zero discharge.[135]

After determining what type of treatment was feasible, EBMUD contacted the sources by letter. It gave each a choice between a zero discharge permit with lower fees—to cover the cost of paperwork and one annual inspection, without sampling—or a treated discharge permit, which would include sampling requirements and higher fees.[136] All the

128. This technical information comes from Interview with Bill Meckel III, *supra* note 119.

129. Telephone Interview with Joe Damas, Manager, Source Control, EBMUD (Mar. 10, 1992) (on file with author).

130. 1990 PRETREATMENT REPORT, *supra* note 13, at 4-2; Interview with Bill Meckel III, *supra* note 119.

131. Interview with Bill Meckel I, *supra* note 62; *see also* 40 C.F.R. §§ 413, 433 (1992).

132. Interview with Bill Meckel III, *supra* note 119. Most shopowners knew about the regulation of radiator repair shops in other districts. *Id.*

133. Interview with Bill Meckel III, *supra* note 119.

134. Radiator repair shops have an easier time achieving zero discharge than platers because their final product does not have to be as clean. Interview with Bill Meckel I, *supra* note 62.

135. After the experience with the platers, EBMUD knew that requiring sampling of discharge quality would be burdensome for small sources. Interview with Joe Damas, *supra* note 129.

136. Interview with Bill Meckel III, *supra* note 119; Interview with Cynthia Chapman, Wastewater Control Representative, EBMUD, in Oakland, Cal. (Apr. 23, 1992) (on file with

shops chose the zero discharge permit. In June 1990, the district issued the radiator shops permits prohibiting discharge of waste containing metal.[137]

These permits require each source to keep records of its waste use and disposal. Annual inspections involve checking that adequate records are maintained, and that the records show proper disposal. On rare occasions EBMUD takes a sample to ensure that no wastes are in fact being discharged into the sewer or to follow-up on a violation.[138] In the first year the permits cost $500. In 1991, they cost $375. In 1992, they cost $200.[139]

During the permitting process, the sources were "surprisingly nonresistant."[140] They appreciated that they had a simple solution to a real problem. In addition, they were not worried about competition from outside the district; their primary concern was whether all shops within the district were being treated equally.[141] They were and are unhappy about paying for the zero discharge permit, however.[142]

Probably because their drains are plugged, these facilities have had no discharge violations.[143] The permitting has reduced the heavy metal content of the influent to the treatment plant by approximately two percent from 1972 levels.[144]

EBMUD identified radiator repair shops as a source of heavy metals. It had neither a clear federal obligation to permit them, nor preexisting standards to apply. The sources accepted the new regulations because they understood the problem they were causing. Furthermore, radiator repair shops had been regulated in other districts, setting a precedent. Due to the small number of shops (fifteen) in EBMUD's district, it was possible to consult with them prior to regulation. Finally, waste minimization with zero discharge was a relatively simple and inexpensive solution that provided other benefits for the businesses. For these reasons EBMUD obtained a great deal of cooperation from the sources.

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author) [hereinafter Interview with Cynthia Chapman II]. As with the platers, a treated discharge permit and inspection would have cost around $6000 per year. Interview with Bill Meckel III. The zero discharge permits cost several hundred dollars per year. *See infra* note 139 and accompanying text; 1992 PRETREATMENT REPORT, *supra* note 2.

137. 1990 PRETREATMENT REPORT, *supra* note 13, at 1-7. The date of permitting is listed as October 1989. *Id.* at 4-2.

138. 1991 PRETREATMENT REPORT, *supra* note 19, at 8-4 to 8-5.

139. Interview with N. Jo Chapman I, *supra* note 83; Interview with Ardy Assadi-Rad, Wastewater Control Representative, EBMUD, in Oakland, Cal. (Apr. 23, 1992) (on file with author). EBMUD is able to lower the price of a zero discharge permit after the first year because files and an inspection routine have been established.

140. Interview with Bill Meckel III, *supra* note 119.

141. Interview with Bill Meckel I, *supra* note 62.

142. Interview with Ardy Assadi-Rad, *supra* note 139.

143. *Id.* Administration of these sources' permits by the responsible representative requires about 30 hours per year. *Id.*

144. *See* Interview with Jo Chapman II, *supra* note 85.

Despite the zero discharge limitation, however, EBMUD charges a permit fee, which the sources strongly resent. Although there have been no illegal discharges, this resentment has undermined the cooperative spirit of this regulatory enterprise.

D. Drycleaners

Drycleaners operate washing machines that use perchlorethylene (perc) solvent rather than water and detergent. The machines also use a small amount of water. At the end of the process, the cleaners put the mixture of water and solvent in a still to recover the perc. They then discharge the wastewater, which still contains roughly 150 parts per million of perc. In addition, if the seals and pipes of the washing machine are improperly maintained, perc from the process can leak into the sewer.[145]

While EBMUD's Ordinance 311 covers heavy metals, it does not make a clear reference to perc discharges. Moreover, in contrast to the radiator repair shops, no nearby agency had previously regulated drycleaners' wastewater.[146] Because of the novelty and complexity of regulating the drycleaners, the district decided to include more formal industry participation in developing these regulations than it had with the platers or radiator repairers. EBMUD discussed with the East Bay Dry Cleaners Association whether a closed-loop system[147] was possible or whether it should require pretreatment. They concluded that the closed-loop system was possible,[148] that requiring pretreatment and discharge monitoring would be too expensive, and that a zero discharge permit would be best.[149] At this stage everything seemed to be running smoothly.

In February 1990, the district sent letters to drycleaning businesses informing them of pending discharge requirements.[150] It issued them permits in March.[151] The permits prohibit discharge of all drycleaning wastes to the sewer.[152] They require drains to be plugged to prevent accidental spillage and provide for an annual inspection.

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145. *Id.* Perc causes chlorinated air emissions, which are ozone precursors, at the plant; untreated perc is a suspected human carcinogen. California has listed perc as a toxic chemical. CAL. CODE REGS. tit. 22, § 66261.126 (1991).

146. Interview with Bill Meckel III, *supra* note 119. Drycleaners are also a more numerous and complex group than the radiator repairers. Their trade association is the East Bay Dry Cleaners Association.

147. In a closed-loop system, a source keeps the wastes in the process as long as possible and then disposes what cannot be reused by means other than sewer discharge.

148. Interview with Joe Damas, *supra* note 129.

149. Interview with N. Jo Chapman I, *supra* note 83.

150. 1990 PRETREATMENT REPORT, *supra* note 13, at 1-5.

151. 1991 PRETREATMENT REPORT, *supra* note 19, at 4-2. The businesses were easy to find, as they are all listed in the yellow pages. Interview with N. Jo Chapman I, *supra* note 83.

152. 1991 PRETREATMENT REPORT, *supra* note 19, at 4-2.

The district thought that the consultative process would ease the introduction of regulations. When EBMUD notified all the drycleaners of the new permits and conditions, however, they encountered considerable resistance. The district was unaware of the low participation rate in the industry association, especially among the many Korean drycleaners.[153] Those drycleaners, who were presented with a *fait accompli*, resisted at first. They had not learned about their shops' discharge problems through the consultation process, and they did not believe that there was a problem with their wastewater; perc is clear and cannot be seen in water. Although perc discharge is in general a well established problem, EBMUD only had three samples, which did not convince the drycleaners. In addition, several other agencies already inspected the drycleaners, so the owners resented the additional cost and paperwork. EBMUD also charged a higher permit fee than the other agencies.[154]

Drycleaning is a marginal business even without regulatory burdens and the drycleaners particularly objected to the expense of offhauling their waste. Moreover, if they had to offhaul, they could not see why they should pay a permit fee when they did not discharge anything.[155]

EBMUD held a workshop in October 1990 to explain and discuss the permits.[156] The *1990 Pretreatment Report* states dryly that "[i]nformation was translated into Korean for the Association" at the workshop.[157] In fact, the drycleaners did not accept EBMUD's position, and the translator, who was a chemist, started arguing freely with them. There was a sense of confusion.[158]

Over time, although it was a difficult process for both sides, the regulations did work.[159] EBMUD gained ground by making considerable efforts to explain the need for the regulations to all the drycleaners at meetings or during inspections. Timely publicity about perc leaks also helped convince drycleaners.[160] In addition, in the second year the per-

153. Interview with N. Jo Chapman I, *supra* note 83.

154. The Bay Area Air Quality Management District (BAAQMD) charges a maximum of $100. In the first year, EBMUD's permit was $350. Interview with N. Jo Chapman I, *supra* note 83.

155. This sentiment continues. Telephone Interview with Grant Carson, EBC Drycleaners Association (Mar. 22, 1993) (on file with author). According to Mr. Carson, "it makes no sense." *Id.*

156. 1990 PRETREATMENT REPORT, *supra* note 13, at 1-6.

157. *Id.*

158. Interview with N. Jo Chapman I, *supra* note 83.

159. *Id.*

160. In 1990, there were several articles about threatened citizen suits over the sale of inadequately labelled products containing perc, under the California Safe Drinking Water and Toxic Enforcement Act of 1986. CAL. HEALTH & SAFETY CODE §§ 25249.5-49.13 (West 1992). *See, e.g.*, George White, *Five Retailers Pull Spot Remover from Shelves*, L.A. TIMES, July 12, 1990, at D2; William Carlsen, *Paint, Spot Remover Labeling Attacked in Sierra Club Action*, S. F. CHRON., July 6, 1990, at A4. There was also an article in November 1990 about cleaning up drinking water contaminated by perc in Los Angeles. *California Cleans Up with*

mit cost was reduced, as is the usual pattern. EBMUD's regulators were very "easy" on, and pleasant to, the drycleaners.[161] EBMUD only assessed violation fees against a few intractable sources.[162] As a result of the regulations, there was a huge decrease in perc influents, from ninety mg/liter to less than ten.[163] Drycleaners now either offhaul or evaporate their perc-contaminated wastewater.

As with the radiator repair shops, there were no clear federal obligations or guidelines relating to drycleaner regulation. As a result, EBMUD had more difficulty, and less success, in gaining industry cooperation. Because perc is clear, and because EBMUD did not prepare a very convincing scientific case, it had difficulty convincing the drycleaners that there was a problem. In addition, there was no precedent regulation in other districts. When consultation did occur, EBMUD could not easily communicate with some 200 drycleaners, especially given the language barriers and the unrepresentative industry association. These factors offset any relative advantage that might have flowed from the feasibility of a zero discharge permit. Finally, the requirement of paying for a zero discharge permit kept resentment alive.

Another problem illustrated by EBMUD's experience with the drycleaners is the possibility of racial discrimination in the regulatory process, even where wholly unintentional. Although, in the end, the Korean drycleaners accepted the regulation,[164] their omission from the initial consultation process is troublesome. By consulting the industry association, but not investigating its membership (and, by implication, the power structure in the industry), EBMUD in effect allowed the powerful elements in the industry to exercise disproportionate influence in shaping the regulations. This state of affairs has important implications regarding the equality of treatment of different groups by government regulators.[165] The ability to shape the first draft of a regulation is significant in

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Environmentally Sound Technology: Nation's First Use for Revitalizing Contaminated Drinking Water, PR NEWSWIRE, Nov. 12, 1990, *available in* LEXIS, Nexis Library, PRNEWS File.

161. Interview with N. Jo Chapman I, *supra* note 83.

162. Virginia Cleaners was given an Administrative Civil Liability. 1990 PRETREATMENT REPORT, *supra* note 13, at 1-11.

163. Interview with N. Jo Chapman I, *supra* note 83. *See also* 1991 PRETREATMENT REPORT, *supra* note 19, at 1-7 (reporting a 74% decrease); OPERATING REPORT, *supra* note 13, at 24 (reporting a decrease from 61 lb/day in June 1990 to 6 lb/day in the 2nd quarter of 1991; 1990 PRETREATMENT REPORT, *supra* note 13, at 6-36 (reporting a 90% decrease).

164. *See, e.g.*, Telephone Interview with anonymous drycleaner (Apr. 30, 1992) (on file with author).

165. Where groups are deliberately treated differently by a regulatory body for an invidious reason, the treatment can amount to a violation of the Equal Protection Clause of the Fourteenth Amendment. U.S. CONST. amend. XIV, § 1. *See, e.g.*, Yick Wo v. Hopkins, 118 U.S. 356 (1886) (Chinese laundries were consistently denied permits that were regularly granted to white applicants). For a discussion of equal protection in circumstances where an actor may not be aware of the full implications of his or her conduct, see generally Charles R. Lawrence III, *The Id, the Ego, and Equal Protection: Reckoning with Unconscious Racism*, 39

determining the final outcome, as it sets the agenda for subsequent discussion.[166] Particularly in the context of marginal businesses, the ability to shape the regulations can be important in determining whether and which businesses survive. In light of these considerations, it is essential that the agencies consider carefully the power distribution within an industry.

E. Commercial Photoprocessors

During the fixing of an image, the photoprocessing operation removes silver from a plate to contrast areas of light and dark. The silver comes off in a solution, which historically has then been washed down the sewer. Prior to regulation, photoprocessors exceeded EBMUD's Ordinance 311 standards for silver.[167] Although EBMUD's own silver effluent levels were within NPDES requirements, the agency felt that with the emphasis silver was receiving in the South Bay, it would not be long before the East Bay had to regulate silver as well.[168] Accordingly, it began to devise a program to regulate photoprocessors.

In addition to commercial photoprocessors, dental, medical, and X-ray laboratories also process film. EBMUD decided to start with commercial photoprocessors, however, because they are full time photoprocessors—the labs perform additional services—and so presented the best opportunities to study silver discharges and how to reduce them.

Through the drycleaning experience, the district had learned the value of industry participation,[169] and it was careful to talk to the industry before setting standards.[170] Photoprocessors saw clearly that they had to do something about their discharges. In the past, they had collected silver from the waste stream to sell it, so they knew it was there. EBMUD also did field surveys, and documented the presence of silver.[171]

The district surveyed possible waste treatment and minimization methods during the spring of 1990. It discussed techniques for regulating

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STAN. L. REV. 317 (1987) (reconsidering the doctrine of discriminatory purpose established by Washington v. Davis, 426 U.S. 229 (1976)). *See also* John S. Herbrand, *What Constitutes Such Discriminatory Prosecution or Enforcement of Laws as to Provide Valid Defense in State Criminal Proceedings,* 95 A.L.R. 3d 280 (1979) (analyzing cases discussing discriminatory prosecution or enforcement of laws in state criminal proceedings); Kenneth W. Simons, *Equality as a Comparative Right,* 65 B.U. L. REV. 387 (1985) (discussing generally the right to equal treatment).

166. *See* Kenneth A. Shepsle, *Congress is a "They" not an "It": Legislative Intent as an Oxymoron,* 12 INT'L. REV. L. & ECON. 239 (1992) (describing the shaping of congressional legislation).

167. Interview with N. Jo Chapman II, *supra* note 85.

168. *See* Interview with Cynthia Chapman I, *supra* note 84.

169. Interview with Bill Meckel III, *supra* note 119.

170. Interview with N. Jo Chapman I, *supra* note 83.

171. *Id.*

discharges with commercial photoprocessors.[172] They found no affordable pretreatment or waste minimization process that could achieve the district's standards. Because of the large amount of water that photoprocessors sometimes use, a zero discharge was infeasible. The district "wanted to give them a chance to develop their own treatment system."[173] In May 1990, it proposed an interim treatment standard representing the "best available (affordable) treatment technology."[174] EBMUD notified photoprocessors of the requirement and held workshops.[175] There were "no real complaints,"[176] and EBMUD permitted the photoprocessors in the summer of 1990.[177] The permits required that all spent fixer waste be treated prior to discharge.[178]

Once permitted, the photoprocessors mostly complied with pretreatment standards.[179] They installed the required treatment canisters, which reduced their silver outputs by a factor of 100; none have been found in breach of this requirement.[180] Because commercial photoprocessors are only a subset of all photoprocessors, however, silver influent levels at the POTW have not changed noticeably.[181] EBMUD is considering pushing the photoprocessors harder by requiring zero discharges when it next renews permits.[182]

EBMUD inspects photoprocessors only once a year and performs no sampling. This limited inspection is unusual in EBMUD's program, but it believes that the expense of full inspection would simply not be justified in this situation.[183] The regulation of photoprocessors is also unusual in that not all the sources in the category have been permitted; this has caused some concern among the commercial photoprocessors. It may also be less expensive, and more beneficial for EBMUD to permit all the other photoprocessors similarly, rather than to initiate a full inspection program for only a few. Because of the currently satisfactory silver influent, however, EBMUD is unlikely to permit other photoprocessors

172. *Id.*

173. *Id.*

174. The treatment required the installation of two canisters to remove silver from the wastewater. *See* Interview with Bill Meckel I, *supra* note 62.

175. 1990 PRETREATMENT REPORT, *supra* note 13, at 1-6.

176. Interview with N. Jo Chapman I, *supra* note 83.

177. 1990 PRETREATMENT REPORT, *supra* note 13, at 1-6, 4-2.

178. 1991 PRETREATMENT REPORT, *supra* note 19, at 4-2.

179. Interview with N. Jo Chapman I, *supra* note 83.

180. Interview with Bill Meckel I, *supra* note 62.

181. Interview with N. Jo Chapman I, *supra* note 83.

182. Telephone Interview with N. Jo Chapman, Wastewater Control Representative, EBMUD (May 18, 1992) (on file with author) [hereinafter Interview with N. Jo Chapman III]. Photoprocessors would be given the option to have a discharge permit with stricter standards than at present. This would require full inspection and sampling and would be substantially more expensive. *Id.*

183. Interview with Bill Meckel I, *supra* note 62.

in the near future, although it does plan to distribute educational material to them.[184]

Because EBMUD did not face imminent pressure to reduce its silver influent, the permitting process of photoprocessors was an educational exercise that enabled both sides to learn more about the costs and methods of reducing silver levels. This left more room for flexibility with photoprocessors than with other sources. EBMUD was careful to consult with photoprocessors and to prepare scientific evidence of their discharges. In any event, the photoprocessors already knew they discharged silver in excess of ordinance standards. Although zero discharge was not feasible, there was a reasonable and easily adopted pretreatment process available; the district showed flexibility in requiring it as an interim standard.

Because EBMUD makes few inspections of photoprocessors, the permit cost is low. Although the fee is approximately the same in this case as for radiator repair shops and drycleaners, EBMUD did not mention complaints from sources about the cost. Perhaps because they still discharge, sources do not feel it unjust to pay a fee. Overall, EBMUD's regulation of photoprocessors has been a fairly successful enterprise.

F. Auto Repair Shops

In the course of servicing automobiles, repair shops discharge oil and grease, heavy metals (from the car bodies and the antifreeze), and volatile organic compounds (in solvents).[185] Disposal of these wastes is already regulated by the Air Quality Management District,[186] the California Occupational Safety and Health Administration,[187] the fire department, and county health departments.[188] These agencies and EBMUD do not communicate, however, and EBMUD has no means of knowing what the shops do with their wastes. Although sampling showed that their metal, oil, grease and volatiles indicators were within the limits set in Ordinance 311, these indicators were higher than for domestic sources.[189] In addition, although the sources disposed of waste in compliance with other agencies' requirements, the risk of accidental spills remained.

There are many auto repairers in the East Bay. The district found them by looking in the yellow pages, going through customer informa-

184. Interview with N. Jo Chapman I, *supra* note 83.

185. Interview with Joe Damas, *supra* note 129; Interview with Cynthia Chapman I, *supra* note 84. In particular their waste products potentially contain copper and zinc, the NPDES levels for which are soon to be lowered. Interview with N. Jo Chapman I, *supra* note 83.

186. BAAQMD, Rule 8-16 (Aug. 2, 1989).

187. CAL. LAB. CODE §§ 6360-86 (West 1989).

188. CAL. CODE REGS. tit. 22, §§ 66262.1-62.7 (1992)

189. Interview with Cynthia Chapman I, *supra* note 84.

tion system lists (customers are listed by Standard Industrial Classification), and contacting the Bureau of Automotive Repair.[190] EBMUD developed a proposed regulation and then invited the forty larger auto repairers to a meeting.[191] All forty attended, and the district "took a lot of heat."[192]

Consequently EBMUD revised the regulation to require that shops plug drains in the service area to prevent accidental spills. Provided that wastewater does not contain petroleum distillates or paint and that employees are trained in proper operating and spill procedures, wastewater from car washing can be discharged down other drains. The sources must send in a certification statement and offhaul their waste. EBMUD inspects them once a year.[193] This regulation was then presented to a meeting of smaller auto repairers. Of the 240 that EBMUD invited, only thirteen came.[194]

EBMUD subsequently issued 245 permits.[195] The small sources reacted strongly when they received their permit and saw the $200 fee. Compliance is not a problem for them, however, as they are already regulated for these wastes.[196] In establishing the regulation, EBMUD had to exercise discretion. Some auto repairers, such as windshield repairers, discharge almost no substances of concern. The agency will exercise further discretion as it issues more and more permits. Very small sources will be excluded.[197] Auto repairers are not concerned about competition from outside the district because other POTW's already regulate their auto repairers.[198]

There are many auto repairers but no trade association, making consultation more difficult in this industry than in others. In an effort to overcome this obstacle, EBMUD first targeted the larger sources, a much smaller and more manageable group, and then presented the outcome of that negotiation to the rest of the sources as a proposed standard. This tactic worked in part, as a more feasible regulation was developed. Com-

190. Interview with Cynthia Chapman II, *supra* note 136.

191. It invited the larger ones first because there were fewer of them and because their size meant they were more likely to raise objections. *Id.*

192. Interview with Cynthia Chapman I, *supra* note 84.

193. Pretreatment would have required expensive equipment and a discharge fee ($5000 to $6000). *Id.*

194. Interview with Cynthia Chapman II, *supra* note 136. She is not sure why so few attended. Possible reasons are that their smaller size made it harder to spare a representative or that, due to limited resources, they did not understand or chose to ignore the regulatory process. Interview with Cynthia Chapman I, *supra* note 84.

195. 1992 PRETREATMENT REPORT, *supra* note 2, at 1-4.

196. Interview with Cynthia Chapman I, *supra* note 84. The representative fielded many resentful calls about the fee once the permits were issued. In response, she explained that the plant is subject to limits imposed by the state board. Interview with Cynthia Chapman II, *supra* note 136.

197. Interview with Cynthia Chapman I, *supra* note 84.

198. *Id.*

munication with the smaller sources still did not function properly, however. This tactic also seems to create the same problem of potentially unequal treatment as EBMUD's accidental omission of the Korean drycleaners.[199]

Because other agencies already regulate auto repairers for their waste, compliance, in general, was not a problem. It was hard for EBMUD to justify the need for shops to obtain another permit and pay another fee, however, and industry resentment continues to be a problem. EBMUD was concerned about accidents and the breaching of other agencies' rules, but it did not have strong evidence that either actually happened. Finally, due to the large number of sources and variation in their sizes, EBMUD did not permit them all at once. The representative had to exercise discretion in choosing which to permit first. In the absence of clear criteria, some resentment has arisen.[200] There is also a risk that regulated repair shops will become concerned about their competitiveness with shops in the district that are not yet regulated.

G. Procedural Issues Arising from the Permitting Process

Permitting is important in focusing resources on priority problems in an efficient manner and building industry cooperation. Many factors complicate the small source permitting process, however, and impede efficient and cooperative regulation. I have grouped these factors into two overarching groups: process issues and cost issues. Process issues will be discussed in the next subpart. Cost issues will be discussed in part II.H.

1. The Perceived Need for Regulation

Bardach and Kagan point out that "good inspectors are also good salesmen."[201] When an agency develops good scientific evidence of the need for regulation, it is not only better able to focus on priority problems, but also better placed to convince sources of the need for regulation, and thereby obtain their cooperation. Particularly in the area of hazardous materials, businesses are tired of and skeptical about being regulated.[202] Partly because the radiator repair shops and photoprocessors could readily see the problem, they were relatively cooperative. Where the industry cannot see a problem (as with the drycleaners), or believes it is already sufficiently regulated (as with the auto repairers), the agency must be careful to gather a lot of samples from the sources and explain why these discharges are a problem. Publicity in the press about

199. *See supra* notes 153-58, 164-66 and accompanying text.

200. Interview with N. Jo Chapman I, *supra* note 83. For photoprocessors, the criteria are fairly clear: whether the photoprocessor was commercial or not. *Id.*

201. BARDACH & KAGAN, *supra* note 67, at 133.

202. Interview with N. Jo Chapman I, *supra* note 83.

the consequences of discharges can add weight to such arguments, as happened with the drycleaners.

In order to ensure that it regulates the right industries, EBMUD has initiated a more active search-out program. The district plans to send inspectors to industrial parks and warehouses, and to collect samples from nearby city pipes, to see if the tenants are discharging anything that should be regulated.[203] EBMUD will conduct similar examinations in the course of business inspections.[204]

2. Perceived Overregulation

It is harder to convince sources of the need for regulation, and to ensure that the most effective form of regulation is imposed, where several different agencies regulate the same sources for similar matters. There was once just one environmental health inspector. Now small businesses may be regulated by several agencies before EBMUD comes on the scene.[205] Each agency sends inspectors and demands fees, process changes, and paperwork. A large company can afford to hire an environmental compliance officer to deal with this administrative burden. In a small business, however, the burden falls on the owners.[206]

Coordination with other regulatory agencies could decrease the burden on the source and promote cooperation. This is not an easy task. The state, however, is currently trying to coordinate regulation and inspection. The inclusion of most regulatory bodies into the California Environmental Protection Agency should be a step in the right direction.[207] The Bay Area Air Quality Management District has proposed regulations for drycleaners that will control sewer discharge as well as air emissions. The air district also plans to coordinate inspections.[208] The waste minimization program guidelines of the Regional Water Quality Control Board encourage coordination with other regulatory programs.[209] Better coordination between regulators can also lead to better environmental protection, as it can ensure that a source cannot comply with regulation

203. Interview with Stan Archacki, Wastewater Control Inspector, EBMUD, in Oakland, Cal. (Apr. 20, 1992) (on file with author).

204. *Id.*

205. Interview with Cynthia Chapman I, *supra* note 84; *see supra* note 188 and accompanying text.

206. Interview with Cynthia Chapman II, *supra* note 136.

207. Interview with N. Jo Chapman I, *supra* note 83.

208. *Id.*

209. 1991 Water Quality Control Plan, *supra* note 101, at IV-22. The other regulatory programs envisioned by the plan include air toxics, hazardous waste, and land disposal programs.

in one medium by transferring waste in another medium.[210] Coordinated regulation will lead to better rules and more cooperation.[211]

3. *Competitive Neutrality*

To gain the cooperation of regulated sources, agencies must also ensure that regulation does not put some sources at a competitive disadvantage. Lorena Bark Malecha et al. point out that in regulating small boat yards, the RWQCB initially acted in an ad hoc manner, provoking resentment and resistance due to the distortions it created in a competitive market.[212] To avoid such problems, an agency should uniformly regulate all sources in a given category. There are two main obstacles to uniform regulation, however. First, identifying all the businesses can be difficult. Drycleaners are all listed together in the yellow pages, but auto repairers, for example, are often part of larger firms. Second, it is not always desirable to permit all of the sources, or to permit all of them in the same way. Some may perform a specialized task that does not pose a problem (e.g., windshield repairers), while others may perform a range of tasks, making it difficult to implement any one standard or process. Some sources may be particularly big polluters, while others may be so small that they pose no material problem.[213]

Whatever the underlying rationale, when an agency plans to exempt (or target) only some sources within an industry it should set clear criteria for doing so. With the photoprocessors, the dividing line was clear: commercial photoprocessors are regulated, others are not. The criteria are not as clear for auto repairers.[214] Apart from the photoprocessors and auto repairers, EBMUD imposed uniform standards or requirements on all sources within a given industry.

4. *Consultation*

Consulting the targeted industry well before regulations assume their final form can help an agency not only to obtain maximum cooperation, but also to shape more effective regulation. "[I]nteractive processes can identify the people and groups who care most about environmental regulation, clarify the aims of rules, determine trade-offs among objects sought by interest groups, and set priorities on goals."[215] Consultation

210. Cross-media programs are now part of EPA policy. OFFICE OF ENFORCEMENT, *supra* note 82, at 3.

211. *See generally* 22 ENVTL. L. 1 (1992) (symposium issue on integrated pollution control).

212. Lorena Bark Malecha et al., *San Francisco Bay Area Boatworks: A Case Study in Regulating Small Polluters*, 20 B.C. ENVTL. AFF. L. REV. 453, 462, 468 (1993).

213. Interview with N. Jo Chapman I, *supra* note 83; Interview with Cynthia Chapman I, *supra* note 84.

214. *See supra* text accompanying note 200.

215. DIMENTO, *supra* note 18, at 107; *see also* BARDACH & KAGAN, *supra* note 67, at 179-

helps to raise different issues and interests involved in a proposed regulation and to reconcile them before the enforcement stage, allowing the regulation to be perceived as "fairer." Consultation with the regulated industry is also more likely to result in clearer regulation.[216] The industry can point the agency to aspects of the regulation it does not understand. Industry also has an incentive to understand what it will be required to do.

Consultation also allows latitude for the parties to reach consensus on the facts of the underlying problem. Information and studies can be exchanged and discussed,[217] and arguments and theories can be tested.[218] In the context of small sources, consultation is particularly important in making standards feasible and effective. As can be seen from EBMUD's efforts, ideas of how best to control discharges are still underdeveloped in many small industries. General regulatory theory holds that industry usually has a better idea of what happens within its processes and what can be altered than does an agency.[219]

Consultation can also function in the other direction. The agency may have information, unknown to sources, that makes compliance easier. Particularly with small sources, the agency may know more about compliance than the source itself. For example, after its experience with the platers, EBMUD championed the long-term advantages of waste minimization and zero discharge over pretreatment permits. The agency may also be aware of other benefits a process can bring, such as water savings or easier tracking of hazardous waste.

Finally, consultation is important because it can lead regulated entities to develop a more positive attitude towards the regulations. Consultation can bring industry "on board" in a more subtle way than information-sharing alone would indicate. Vogel found that where industry has an "assumed and assured" role in decisionmaking, it is much less likely to confront the resultant decisions.[220] DiMento suggests that "the commitment which evolves when the participant feels that change is

180.

216. *See* DIMENTO, *supra* note 18, at 106.

217. *Id.* at 107.

218. In comparing environmental regulation in the United Kingdom and the United States, David Vogel points out that the United Kingdom has enjoyed more industry cooperation than the United States. Vogel attributes this to the fact that in the United Kingdom, technical personnel in government and industry come together to agree on technical information and scientific assessments of risk. In the United States, by contrast, the government has often proceeded on the basis of information and assessments of which industry is very critical. VOGEL, *supra* note 107, at 185.

219. BARDACH & KAGAN, *supra* note 67, at 132; *see also* Charles L. Schultze, *The Public Use of Private Interest,* HARPER'S, May 1977, at 43, 46; Shavell, *supra* note 55, at 359-60; for a broad vision of a world of decentralized regulation, see Richard B. Stewart, *Administering the Administrative State: Madison's Nightmare,* 57 U. CHI. L. REV. 335, 352-56 (1990).

220. VOGEL, *supra* note 107, at 172-73.

not imposed from the outside" may explain the increased cooperation that generally comes with consultation.[221] At the very least, consultation warns sources of change ahead of time and allows them to prepare. The drycleaners provide an extreme example of the negative attitude that can ensue from lack of consultation.[222]

Consultation may be more difficult with small sources than with large sources. Small sources may not bring a bevy of lawyers to meetings, but they are likely to be more numerous, may dislike each other personally, are less likely to have the scientific and technical backgrounds necessary to identify and develop alternative processes, may not be able to afford to attend long discussions, may be less organized into associations, and may not speak English.

EBMUD has not always resolved the formidable problems for consultation that these factors pose. It has emphasized consultation, however, and adopted various strategies to promote it. In the case of small industries, such as radiator repair shops and photoprocessors, it spoke to all the sources. In larger industries, it adopted two different strategies. With the drycleaners, it addressed an association.[223] With the auto repair shops, it broke the consultation process into two parts, first meeting with larger sources, then with smaller ones.[224] A problem remains where sources choose not to come to meetings or are unable to attend.[225] To address this problem, an agency must first identify the reasons for nonattendance. The agency may be able to take measures to circumvent or reduce the problem.[226]

Whenever an agency undertakes consultation, it is crucial that it organize the forum properly. Bardach and Kagan note that judicial processes tend to polarize parties, reducing the possibility for discussion.[227] Even in public, nonjudicial sessions, an adversarial style tends to dominate.[228] Thus, they suggest that "forums to debate proposed rules should be established behind closed doors, but under the watchful eye and the prodding hand of a governmental official, similar to collective bargaining between management and labor conducted with the aid of a

221. DIMENTO, *supra* note 18, at 107.

222. *See supra* notes 153-58 and accompanying text.

223. See *supra* note 147 and accompanying text.

224. *Cf.* BARDACH & KAGAN, *supra* note 67, at 179-81 (discussing negotiated rulemaking).

225. *See supra* note 194 and accompanying text.

226. Bardach and Kagan point out the value of permanent consultation to facilitate modification of regulations. They suggest a "series of ongoing technical advisory committees, specialized by industry or product," which could include not just regulator and industry, but also representatives of consumer, labor, and environmental interests. BARDACH & KAGAN, *supra* note 67, at 178.

227. *See id.* at 179.

228. *Id.*

mediator."[229] An agency, however, may also need to follow public rulemaking processes because of general suspicions about secret decision-making.[230] To resolve conflicts and uncertainties most readily, the private process should occur first. EBMUD could readily adopt this approach, provided that industries were prepared to participate by sending representatives, and that some representative structure could be organized.

In developing such forums, an agency must be sensitive to the power structures within an industry, whether based on race, size, or other factors; it must take care not to allow the powerful to shape the regulations to impact the other members disproportionately. To avoid this problem, an agency cannot simply invite comment on already formulated regulations. The less powerful sources may not have resources to comment, and the proposed regulations will inevitably crystallize discussion around particular issues. All members of the industry must be able to influence the initial formulation of the regulations.

H. Cost Issues Raised in the Permitting Process

Cost considerations can be as essential to developing an efficient regulatory program as the procedural issues discussed in the last section. Who should pay for the cost of developing, installing, and operating control technology? Who should bear the cost of the regulatory program that ensures sources are in compliance? In this section, I examine some of the issues raised by these questions.

EBMUD currently requires sources to pay compliance costs[231] and the bulk of the agency's enforcement costs.[232] The latter can clearly be a substantial burden.[233] By contrast, it is often asserted that compliance with regulatory requirements through the installation of waste minimization technology saves businesses money.[234] For the small businesses regulated by EBMUD, however, compliance does not seem to save money overall. While waste minimization provides some potential for reduced operating costs,[235] the same practices may entail greater fixed costs and

229. *Id.* at 179-80 (referring to others who have made similar suggestions).

230. *Id.* at 180-81.

231. Compliance costs include the costs of developing, installing, and operating technology.

232. Enforcement costs include the costs of administration, inspection, and sampling. These costs are transferred to the source through permit fees.

233. A discharge permit can cost up to $6000. *See supra* notes 136-139.

234. *See supra* note 96.

235. Electroplaters can save on water use and on plating material simply by removing the plated item from the bath at a different angle. Interview with Cynthia Chapman II, *supra* note 136. All radiator shops, and some platers and commercial photoprocessors now reuse their water or have machines that use less water. Interview with Bill Meckel III, *supra* note 119; Interview with N. Jo Chapman I, *supra* note 83. Drycleaners, on the other hand, are using the same machines they used prior to permitting and have not changed their process. Interview

additional operating costs. In addition to the variable and ongoing costs, the capital costs of altering the existing process outweigh the savings from waste minimization, at least in the short term, for many small businesses. For example, the equipment that a radiator shop must install to perform waste minimization to the required standard costs a minimum of $2000 for even the smallest shops.[236]

In sum, while zero discharge is probably less expensive than pretreatment, it may be more costly than the status quo. In light of this fact, I will argue that to overcome various market failures and barriers, and to encourage cooperation, the permit fee system should be modified. Programs to assist and encourage sources to develop and implement waste minimization measures should be initiated. To ensure an efficient level of waste treatment and pollution, these programs and the cost of regulation should be funded, at least in part, by the public. While these arguments are not new, they are especially urgent in the context of small source regulation.

1. The Polluter Pays Principle

Economic theory holds that to ensure an efficient amount of any activity and optimal allocation of resources, the parties engaged in the activity must bear all the costs and benefits of their transactions.[237] Many activities, however, have effects, known as externalities, which are not felt by the parties.[238] Where the effect is beneficial, it is referred to as a positive externality; where harmful, as a negative externality. In cases involving negative externalities, the social cost of the activity is higher than the private cost to the parties to the transaction, and the parties will consequently overindulge in the activity.[239] Environmental harm has traditionally been considered a negative externality.[240]

The polluter pays principle holds that the polluter should pay for the costs of the pollution she creates. The principle assumes that the

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with anonymous drycleaner, *supra* note 164.

236. *See* Interview with Bill Meckel III, *supra* note 119.

237. *E.g.*, Schultze, *supra* note 219, at 48. *See generally* WILLIAM J. BAUMOL & WALLACE E. OATES, THE THEORY OF ENVIRONMENTAL POLICY: EXTERNALITIES, PUBLIC OUTLAYS, AND THE QUALITY OF LIFE 14-32 (1975) (defining and discussing externalities and Pareto optimality) [hereinafter THE THEORY OF ENVIRONMENTAL POLICY]; Ronald H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 13 (1960); ROBERT S. PINDYCK & DANIEL L. RUBINFELD, MICROECONOMICS 639-44 (1992) (discussing externalities and transaction costs and their effect on resource allocation).

238. THE THEORY OF ENVIRONMENTAL POLICY, *supra* note 237, at 14-32; WILLIAM J. BAUMOL & WALLACE E. OATES, ECONOMICS, ENVIRONMENTAL POLICY, AND THE QUALITY OF LIFE 75-79 (1979) [hereinafter ECONOMICS, ENVIRONMENTAL POLICY]; PAUL A. SAMUELSON & WILLIAM D. NORDHAUS, ECONOMICS 715-18 (12th ed. 1985). The concept of externalities can be traced back to A.C. PIGOU, THE ECONOMICS OF WELFARE pt. II (4th ed. 1932) (distinguishing between social and private net products).

239. PINDYCK & RUBINFELD, *supra* note 237, at 639-44.

240. ECONOMICS, ENVIRONMENTAL POLICY, *supra* note 238, at 75-79.

polluter is in the best position to internalize these costs into the price of her activities and thereby to reallocate the costs through society.[241] The principle has two aspects. First, when someone has polluted a natural resource, that person should pay to clean it up, or pay an equivalent amount in damages.[242] This is an ex post liability concept. Second, when someone's activities create pollution on an ongoing basis, that person should bear the cost of abatement.[243] This ex ante regulatory approach requires the person to develop, install, and operate control technology.

The polluter pays principle also requires that the polluter pay the costs of regulation. The regulation exists to reduce the risk of accidental or deliberate pollution. Even when the regulation imposes a zero discharge standard, the potential for pollution remains because of the nature of the activity. To ensure an efficient level of the activity, the industry imposing that risk on society should carry that activity's cost.

2. *Qualifications to the Polluter Pays Principle*

I argue that three qualifications should be made to polluter pays model. These qualifications apply particularly to small businesses. The first qualification relates to equity considerations; the second concerns the presence of market failures and barriers; and the third accounts for allocative efficiency.

a. *Moral Suasion and Equity Considerations*

Resentment at having to pay regulatory fees while not discharging is one of small businesses strongest and most consistent reactions to EBMUD's regulatory program. Expressions of anger on this count have been an ongoing feature of the program, referred to by most of the regulators and sources with whom I spoke.[244] The main reason for the resentment seems to be the fact that sources feel they are paying money for nothing.

EBMUD imposes the fee because it believes that zero discharge sources remain potential problems that must be inspected to ensure they

241. The polluter pays principle is widely accepted. For example, it has been expressly adopted in the European Community. *See* TREATY ESTABLISHING THE EUROPEAN ECONOMIC COMMUNITY [EEC TREATY] art. 130R(2) (as Amended 1987).

242. This principle is explicitly embodied in CERCLA. *See* Steven B. Bass, Comment, *The Impact of the 1986 Superfund Amendments and Reauthorization Act on the Commercial Lending Industry: A Critical Assessment*, 41 U. MIAMI L. REV. 879, 903 (1987).

243. *See* Judith Marquand & David R. Allen, *A Note on Some Aspects of the "Polluter Pays" Principle and its Implementation, in* THE POLLUTER PAYS PRINCIPLE: DEFINITION, ANALYSIS, IMPLEMENTATION 77, 79 (Organization for Economic Co-operation and Development ed., 1975).

244. *E.g.*, Interview with N. Jo Chapman I, *supra* note 83; Interview with Ardy Assadi-Rad, *supra* note 139.

are not discharging.[245] Noncompliance would necessitate administrative effort to identify and sanction violators: without permit fees, these costs would be difficult to recoup from sources. Finally, EBMUD compares the costs of a zero discharge permit with the costs of a pretreatment permit and considers the difference to be a huge saving for the source.

While EBMUD's position is a valid one, the agency should also consider this policy's moral or cultural message. The rhetorical and moral content of regulations are important tools in obtaining regulatory compliance.[246] Public reaction to government programs sometimes may depend less on a program's efficiency or practicality than on the very different messages it conveys about who will bear the responsibility for social ills.[247] These messages interact closely with people's ideas of fairness and virtue, and affect their attitudes toward the mechanisms.[248] On this view, the structure and language of the regulatory program, as much as the behavior of the regulators, will affect the regulated industry's cooperation.

In this light, the imposition of a permit fee for zero discharge is almost guaranteed to raise resistance, rather than encourage cooperation and voluntary overcompliance. To most sources, it just seems unfair. The message of a zero discharge permit is that a source must pay for nothing and keep paying, no matter how much it complies.

An alternative approach that may carry a more effective rhetorical message is for the agency to start by imposing a common permit fee, reducing it over time for sources with good compliance records. This approach would reward sources for good behavior. The agency could still recover the costs of the regulatory program by imposing much heavier fines on violators. Violators' fees could also be scaled down over time but from a higher starting point. Not only would this probably be seen as fairer, but it would also give sources an incentive to comply.[249]

Alternatively, EBMUD could recover the costs of necessary inspections by increasing wastewater treatment rates for the inspected industry;

245. In the South Bay, sources that do not discharge are not permitted and pay no fee; instead they must periodically submit a Verification of Offhaul form. Interview with N. Jo Chapman I, *supra* note 83.

246. *See, e.g.*, Richard H. Pildes, *The Unintended Cultural Consequences of Public Policy: A Comment on the Symposium*, 89 MICH. L. REV. 936, 955 (1991) (discussing the cultural significance of various laws); Rose, *supra* note 107, at 36; ECONOMICS, ENVIRONMENTAL POLICY, *supra* note 238, at ch. 19 (discussing voluntary compliance with environmental laws).

247. For example, Richard Pildes studied ways that countries have raised armies. He found that while certain mechanisms encouraged volunteering, others led to rioting. Pildes, *supra* note 246, at 945-46.

248. *See* Rose, *supra* note 107, at 29-36.

249. This idea was suggested by Professor John Dwyer. This escalating system could be based on the same criteria EBMUD uses to determine monitoring frequency. A similar scheme is proposed in THE THEORY OF ENVIRONMENTAL POLICY, *supra* note 237, at ch. 10.

sources with zero discharge still discharge sanitary waste.[250] Because sources would then be paying for something rather than for nothing, they are likely to find wastewater charges more equitable. Sources would also have power to reduce their costs by reducing consumption. The agency could combine this rate increase with the escalating approach, reducing the rate for compliant sources and increasing it for violators.

b. Market Failures and Barriers

The polluter pays principle posits that sources are best positioned to spread the social costs of their activities. If the market for allocating resources is imperfect, however, even when regulation is imposed on the polluter, the price of a good will not properly reflect its social cost. In the face of these problems, it may be more efficient for the regulating agency (or the government by some other means) to subsidize the development and installation of waste minimization processes.

At least three potential market failures may prevent market from allocating resources perfectly. For a market to work efficiently, parties to a transaction must bear all of its costs and enjoy all of its benefits.[251] Only then will the parties engage in the activity to the point where marginal cost is equal to marginal benefit—the economically efficient level.[252] Thus, a market failure occurs when the parties to a transaction do not realize all of the positive externalities. For example, where the innovator of minimization technology is not able to control the distribution of the information she has developed, she will not enjoy the full benefit of its development.[253] In this situation, innovators will not put enough effort into innovation.

Second, because all markets suffer from imperfect information, sources are unaware of their options. This reduces their ability to take efficient action. On the other hand, in many circumstances, "[f]or parties to undertake individually to acquire information might result in wasteful, duplicative expenditures."[254]

Third, the initial costs of developing and installing waste minimization measures are often quite high. Even investments with positive long-term payoffs may be declined by rational sources if the investments are illiquid, risky, or have high transaction costs.[255] The high cost of meas-

250. The EBMUD Wastewater Department derives revenue primarily from the following sources: a charge on property tax; wastewater discharge rates; and permit fees. Government grants and interest provide additional revenues. OPERATING REPORT, *supra* note 13, at 29-30; Interview with Bill Meckel I, *supra* note 62.

251. *See supra* note 237 and accompanying text.

252. *Id.*; PINDYCK & RUBINFELD, *supra* note 237, at 640-44.

253. Shavell, *supra* note 55, at 360.

254. *Id.* This is less of a problem in industries where the individual businesses customarily share information.

255. Ronald J. Sutherland, *Market Barriers to Energy Efficient Investments*, THE ENERGY

ures also represents a market barrier. Sources with little available cash will be unwilling and perhaps unable to invest in minimization, thereby reducing the market for the technology.[256]

These market failures and barriers are more serious in the context of small source regulation than in large source regulation. While some large firms may have more resources and expertise than an agency,[257] small firms do not have the resources to maintain a substantial research and development program on their production processes (as opposed to their product), to install expensive equipment, or to employ technical expertise to find and apply new processes.[258] Smaller sources are also less likely to be able to diversify the risk of developing and installing the equipment.[259]

The regulating agency is better situated than sources to assume and distribute the costs of waste minimization because it has more available cash, ability to diversify risk, information, and exposure to the true marginal social costs and benefits of reducing waste. The regulating agency can use its resources to help overcome market gaps and make waste minimization easier for sources. It can do so by providing funding to assist the development and implementation of measures,[260] providing sources with information about consultants and waste minimization practices,[261] establishing contacts between sources and waste offhaulers or buyers, and either performing basic research itself or promoting an association of firms that can pool their resources, raise grant money, and conduct their own research. Even if there are only a few firms in the district, there may be many in the neighboring districts, and all may sooner or later face the same problem. The agency can be an important catalyst in identifying common problems and reducing transaction costs by providing a forum for these parties to come together. Indeed, the agency could go even further and identify problems in a business's quality control system or in management structure that might cause breaches of the regulations or

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J., July 1991, at 15, 16.

256. *See* JOE W. RUSSELL, JR., ECONOMIC DISINCENTIVES FOR ENERGY CONSERVATION 16 (1979).

257. *See* Gunningham, *supra* note 65, at 89; John Braithwaite & Brent Fisse, *Self-Regulation and the Control of Private Crime, in* PRIVATE POLICING 221, 223 (Clifford D. Shearing & Phillip C. Stenning eds., 1987).

258. MARC H. ROSS & ROBERT H. WILLIAMS, OUR ENERGY: REGAINING CONTROL 219 (1981).

259. *See generally* PINDYCK & RUBINFELD, *supra* note 237, at 149-50 (regarding diversification).

260. The California Department of Health Services runs a Waste Reduction Grant Program, which includes financial, indirect, and cooperative aid. EBMUD distributed information about this to its permittees in October 1990. 1990 PRETREATMENT REPORT, *supra* note 13, at 1-7.

261. EBMUD has already made efforts in this regard. *See e.g.*, 1990 PRETREATMENT REPORT, *supra* note 13, at 1-6 to 1-7; 1992 PRETREATMENT REPORT, *supra* note 2, at 1-7.

hamper compliance.[262] In addition to overcoming market failures and barriers, such measures would lead sources to feel more positive about the requirements. As discussed above, improving sources' attitudes about regulation encourages them to comply.[263]

c. *Allocative Efficiency*

Even if regulation results in a perfect internalization of costs to the transacting parties, there will be substantial transition costs in the medium term, associated with regulating and adjusting to the new system. In the longer term, regulation will make some activities much more expensive.[264]

Given finite public resources, we must ask ourselves at least two questions about any regulation. First, is it worth devoting some of these resources to regulating this activity rather than to other purposes? Second, if it is worthwhile, what is the best means of regulation? The first is a cost-benefit question: do we gain more than it costs us to control certain behavior? The second is a cost-effectiveness issue: how can we control the activity in the least costly way?[265]

i. *The Cost-Benefit Question*

Typically small sources are regulated only when most environmental improvements have already been made. Over a certain range, pollution abatement is relatively inexpensive. Past a certain point, however, the marginal cost of reducing pollution begins to increase dramatically.[266] In other words, beyond a certain level, each extra dollar spent on pollution control brings less and less environmental improvement. With respect to water pollution, for example, "the cost of removing the final one (1) percent of pollutants may exceed the cost of removing the

262. BARDACH & KAGAN, *supra* note 67, at 143, 150. For a discussion of management structure as it relates to compliance, at least with respect to large companies, see generally Braithwaite & Fisse, *supra* note 257, at 225-42. *See also generally* Christopher D. Stone, *Controlling Corporate Misconduct*, THE PUB. INTEREST, Summer 1977, at 55 (suggesting legal requirements regarding management structure and decision processes that prevent corporate misconduct); John C. Coffee, Jr., *"No Soul to Damn, No Body to Kick": An Unscandalized Inquiry into the Problem of Corporate Punishment*, 79 MICH. L. REV. 386 (1981) (arguing that corporations, not just their executives, should be punished for corporate misbehavior, and suggesting several possible methods of punishment).

263. See *supra* text accompanying note 107.

264. ECONOMICS, ENVIRONMENTAL POLICY, *supra* note 238, at 176, 180-84.

265. *See* JOHN M. MENDELOFF, THE DILEMMA OF TOXIC SUBSTANCE REGULATION: HOW OVERREGULATION CAUSES UNDERREGULATION AT OSHA 21-23 (1988); Mark Sagoff, *The Principles of Federal Pollution Control Law*, 71 MINN. L. REV. 19, 81-82 (1986).

266. *See* PINDYCK & RUBINFELD, *supra* note 237, at 174-75 and 651-52; ECONOMICS, ENVIRONMENTAL POLICY, *supra* note 238, at 212-13.

initial ninety-nine (99) . . . ."[267] At the same time, people often value the early improvement more highly than the later increments.[268]

EBMUD's experience bears out this difficulty. By 1984, its original pretreatment program had reduced the amount of toxic heavy metals in the influent to the plant by eighty-five percent;[269] it employed three representatives and six inspectors.[270] The 1984 permitting of small metal finishers increased the number of permits by fifty percent, but only improved influent by approximately five percent.[271] In 1993, EBMUD has nine representatives and thirteen inspectors. It plans to add two more of each, and one clerk, in the near future.[272] The agency also plans to issue permits to another 1000 commercial sources in the next four years.[273] Since 1984, EBMUD has achieved only a fractional improvement in heavy metal discharges. It has seen a large improvement in perc influent, however.

Inherent in the present regulatory approach is the risk of imposing too much regulation in certain circumstances. Niskanen has noted that agencies have an incentive to expand their regulatory programs in order to increase their overall size, prestige, and sphere of power.[274] Alternatively, the public itself may demand further regulation. In either case, if the public as a whole is not fully aware of a program's costs and impacts, it may not adequately constrain the agency's expansion.[275] Although imposing costs on small businesses necessarily imposes costs on the public as well, these costs are indirect and slight, taking the form of decreased economic growth or reduced public services in other areas. Even customers of the businesses will notice higher prices only to the extent the business can pass on new costs. This ability depends on the relative elasticities of supply and demand.[276] Because small businesses' prices are demand driven, the cost of compliance and regulation, if initially im-

267. MEYERS & TARLOCK, *supra* note 43, at 840.

268. *See, e.g.*, PINDYCK & RUBINFELD, *supra* note 237, at 64-65, 86-88, 116-18, 665-66; ECONOMICS, ENVIRONMENTAL POLICY, *supra* note 238, at 213-14.

269. *See* OPERATING REPORT, *supra* note 13, at 23.

270. Interview with Bill Meckel II, *supra* note 105.

271. *Id.*

272. 1992 PRETREATMENT REPORT, *supra* note 2, at 12-41. Economic pressures may delay these staff additions. Telephone Interview with Bill Meckel, Wastewater Control Representative, EBMUD (May 7, 1993) (on file with author).

273. 1992 PRETREATMENT REPORT, *supra* note 2, at 12-52.

274. *See generally* WILLIAM A. NISKANEN, JR., BUREAUCRACY AND REPRESENTATIVE GOVERNMENT (1971) (using an economic approach to determine agency behavior). *See also* WILLIAM A. NISKANEN, STRUCTURAL REFORM OF THE FEDERAL BUDGET PROCESS 37 (1973) [hereinafter STRUCTURAL REFORM].

275. "Where an individual's tax burden is disguised so that he does not recognize the extent of the true tax-price he will pay per unit of public service, he will, in general, support a larger public expenditure than he would otherwise." THE THEORY OF ENVIRONMENTAL POLICY, *supra* note 237, at 256.

276. *See* PINDYCK & RUBINFELD, *supra* note 237, at 312-17.

posed on the sources, will often be felt only very loosely by the public at large. Where the burden is imposed on the regulated entities, they may be able to organize resistance at the political level. Small sources, however, are unable to protest as effectively as large sources or the public.[277]

The benefits of regulation will also be loosely felt. What does it mean that there is less cadmium in the water? What would happen if there were more copper in the Bay? It is doubtful that many people are aware of these issues. On the other hand, newspaper headlines about potential carcinogens always receive a lot of attention—attention that may well be disproportionate to their real importance. As a result, the public or the agency may even demand regulation up to the point where it gains no additional benefit, no matter how much immediate burden is imposed on the other group and, eventually, on society.

What are the alternatives? One possibility is to subject regulatory programs to rigorous and scientific risk assessment. In deciding whether or how much to regulate, agencies often use cost-benefit analysis. In a cost-benefit analysis, values are assigned to the benefits that flow from, and the costs imposed by, a program, to determine whether there is a net social gain, or to set priorities among programs. This approach has serious flaws, however. Wide margins of uncertainty often surround our knowledge of what will happen; even where the scientific uncertainty is minimal, or can be quantified, risk analysis remains an imprecise and subjective science.[278] The benefits are difficult to translate into quantifiable values,[279] as are many of the costs.[280]

Given these unspecifiable and subjective elements on both sides of the cost-benefit equation, rational expert analysis of regulatory or other

277. GEORGE J. STIGLER, THE CITIZEN AND THE STATE: ESSAYS ON REGULATION 127 (1975).

278. *See, e.g.*, Alon Rosenthal et al., *Legislating Acceptable Cancer Risk from Exposure to Toxic Chemicals*, 19 ECOLOGY L.Q. 269, 277-95 (1992) (discussing qualitative risk assessment and stating that it is fraught with gaps in knowledge that are filled with guesses and assumptions); John P. Dwyer, *Limits of Environmental Risk Assessment*, 116 J. OF ENERGY ENGINEERING 231, 234-40 (1990). *See generally* SOCIAL THEORIES OF RISK (Sheldon Krimsky & Dominic Golding, eds., 1992) (examining both the theoretical and practical aspects of risk studies).

279. For example, the value of natural resources that may be protected is difficult to fix. Frank B. Cross, *Natural Resource Damage Valuation*, 42 VAND. L. REV. 269, 270 (1989) (discussing different methodologies). The environment also serves other human purposes, such as aesthetic appreciation and recreation, which are even more subjective and harder to value. *See, e.g.*, Richard B. Stewart, *International Trade and Environment: Lessons from the Federal Experience*, 49 WASH. & LEE L. REV. 1329, 1333 (1992); Sagoff, *supra* note 265, at 41; Ralph C. d'Arge & Allen V. Kneese, 20 NAT. RESOURCES J. 427, 442 (1980). *See generally* MENDELOFF, *supra* note 265, at 26-44 (criticizing OSHA's use of the willingness to pay model of valuation).

280. Such costs include: "public and private costs of adopting a standard; public costs of enforcing a standard; costs of the resources used in compliance measures; foregone productivity, including unemployment; losses in consumer surplus; and the costs of foregone liberty, added discomfort and other factors . . . ." MENDELOFF, *supra* note 265, at 53-54.

programs will not necessarily reflect society's wants or needs. Nonetheless, choices between and among regulatory programs must be made. To reach more desirable decisions, it may be necessary to consider putting these choices back into the political sphere, at least in some cases.

Putting the decision back into the political sphere, however, will not, in itself, necessarily ensure that the decision will account fully for the costs and benefits of regulatory choices. One possible improvement in this regard would be to impose part of the costs of further programs directly on the public, for instance, through special levies or increased wastewater rates.[281] This may encourage voters to evaluate the benefits of the program, as well as its costs, to determine whether the regulation is worthwhile. On the other hand, it is possible that the public will vote against any proposed extra tax, regardless of its merits.

ii. Is the Program Cost Effective?

Programs may be subject to three general types of inefficiencies. First, those who are regulated may not be the least-cost reducers. It may be cheaper for large sources to reduce their discharges, for example, or for the wastewater plant to install more treatment equipment, or for residences to change use patterns or piping, than to regulate small sources.[282]

Second, the sources may not be regulated in the most efficient way. For example, pollution control equipment is efficient only to the point where the marginal social benefit from reduced pollution is equal to the marginal social cost of installation of control technology. Beyond that point, control technology becomes more expensive than pollution effects, and it is more efficient simply to make sources liable for any pollution they cause above the level controlled by technology.[283]

Third, the regulatory agency may not be organized efficiently. It may not be obtaining the most "value-added per enforcement official."[284] For instance, a reduction program (permitting, inspection, and enforcement) may be made more efficient by altering its strategy and approach.

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281. *See* STRUCTURAL REFORM, *supra* note 274, at 18.

282. *See, e.g.*, ECONOMICS, ENVIRONMENTAL POLICY, *supra* note 238, at 238-39. *See also supra* notes 93-95 and accompanying text.

283. *See* ECONOMICS, ENVIRONMENTAL POLICY, *supra* note 238, at 238. It may be difficult to ascertain which business caused the pollution, but one solution would be to divide the penalty between all potential sources in proportion to their size. This would give each source an incentive to pollute the amount they are allocated (bearing in mind that the control technology will significantly reduce the amount of pollution they emit) but would also give sources an incentive to develop better technology, in order to show the regulator that they emit less than a normal source and should pay less of the fine.

284. Robert A. Kagan, *On Regulatory Inspectorates and Police, in* ENVIRONMENTAL REGULATION, *supra* note 74, at 40 [hereinafter *On Regulatory Inspectorates*].

The presence of supervisory agencies, such as EPA and the regional board, might mitigate these inefficiencies to some extent. They are also likely to be reduced significantly by the agency's need to justify expenditures to the regulated sources and the public.

3. *Conclusion*

In the course of permitting small business, EBMUD has adapted its procedures and the content of its permits to reduce regulatory costs to a scale more commensurate with the sources' size and the problem's scope, and to obtain the cooperation of the sources. Nonetheless, the zero discharge permit fees, together with the agency's lack of significant technical and financial support for developing and installing technology, continue to present barriers to full cooperation and to pose the risk of misallocating resources.

The community can always choose, within constitutional limits, to impose the costs of a program where it pleases. Where an agency, or the public, can unilaterally extend a regulatory program and impose the costs on members of society with less economic and political power, however, the potential for overregulation arises. One way to constrain this potential is to increase public oversight of these programs, partly by imposing some of the costs directly on the public.

In light of these arguments, the absoluteness of the polluter pays principle should be reconsidered for small source programs. Agencies should instead consider how to spread costs to improve the level of compliance and public participation in setting the level of environmental protection.

III
REGULATORY STYLE

A. Models of Regulatory Style

Enforcing regulations requires more than simply identifying proscribed conduct and applying a prescribed penalty. It also requires industry cooperation.[285] Industry cooperation will yield more compliance at less regulatory cost. An effective enforcement style, like an effective permitting process, should therefore aim as much as possible at generating cooperation on the part of the regulated industry.

Legalism (i.e., simply identifying and penalizing conduct) will not only fail to punish all breaches, but also may generate the regulated industry's resentment.[286] Because regulations cannot provide for all situations, products, and processes, a legalist style tends to be unreasonable

285. *See supra* note 107 and accompanying text.
286. *See supra* text accompanying note 107.

and therefore to provoke resistance.[287] Depending on the surrounding circumstances, a given action may involve different levels of risk and damage. One rule may not reflect all variations.[288] Sampling is also imperfect, so that rote responses to violations may be unjustified. To appear reasonable, regulators must recognize these factors and be prepared to overlook unimportant problems, while being harsher with more serious violators.

Firms also vary in their willingness to comply with regulation:

> Even with the threat of enforcement, some firms try to evade regulations that they feel are unreasonable, and others evade regulations simply because they think they can get away with it. It is important, nevertheless, to recognize that in still other regulated firms there are powerful cultural and market-based forces that encourage compliance.[289]

The literature suggests that almost all regulated communities are composed of "good apples" and "bad apples."[290] Reasonably good apples try to comply, although they may have a limited capacity to do what is required. Bad apples, on the other hand, "are guided only by short-term and narrowly financial considerations . . . . They resist regulatory requirements wholly on the basis of the cost or inconvenience."[291] In such an environment, the agency must treat some sources differently from others—even for the identical violations—in order to maintain their cooperation. For example, a "good firm" that has inadvertently breached a regulation will be antagonized by a stern response, while a "bad firm" will take a soft response as an invitation to continue ignoring the rules.

Firms also vary in their capacity to comply. "A factory with younger workers and high employee turnover will have a harder time preventing accidents and ensuring compliance . . . than will a factory with an experienced, stable workforce."[292] Similarly, some businesses may be better able to afford compliance. Where a source has a low capacity to comply, legalism is less likely to result in compliance. Beyond a certain point, it threatens the viability of the business and leads to counterproductive resistance.[293] On the other hand, regulators who are too accommodative may inadvertently encourage regulated entities to take advantage of them. To prevent this result, the regulator must not only have the power to coerce, but must demonstrate a willingness to use that power in appropriate situations.

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287. Kagan, *supra* note 55, at 101. *See generally* BARDACH & KAGAN, *supra* note 67, at ch. 3.

288. BARDACH & KAGAN, *supra* note 67, at 59.

289. *Id.* at 62.

290. *Id.* at 64-65.

291. *Id.* at 65.

292. *Id.* at 82; *see also* Kagan, *supra* note 55, at 103-04.

293. Kagan, *supra* note 55, at 103-04.

Kagan has developed a model of regulatory style that includes the above considerations.[294] At one end of the continuum is the "legalistic" enforcer, who cites every technical violation immediately, irrespective of its substantive seriousness. At the other end is the "accommodator," who is sympathetic to offenders, giving them too much benefit of the doubt and allowing them to take advantage.[295] In the middle is the "welfare-maximizer," who responds appropriately according to the seriousness of the situation, trying to foster cooperation and treat people fairly, but does not hesitate to use coercion where necessary.

Neil Gunningham distinguishes between a compliance strategy and a deterrence strategy.[296] The compliance strategy is more or less the equivalent of the cooperative approach described above. Regulators who adopt the compliance strategy emphasize building cooperative relationships. Bargaining and negotiation are commonly used and enforcement powers remain in the background—as a threat to keep the regulated party's attention fixed on the task—to be exercised only as a last resort.[297] In contrast, the deterrence strategy assumes that everyone is a rational actor, calculating the costs and benefits of each activity.[298] The agency strives to detect as many violations as possible and punish them as severely as possible, to weight the calculation so heavily that it deters potential violators. The deterrence strategy is therefore "accusatory and adversarial."[299]

Bardach and Kagan point out that to have a cooperative relationship, both sides must have something they can give to the other (reciprocity). The regulated entity can offer to comply, to give the regulator the information she needs, and to treat the regulator courteously. The regulator can offer to do at least three things: listen to the regulated entity's position and problems; delay or negate enforcement; and inform the business how to comply with the regulations more easily.[300] A cooperative style will be marked by the presence of these three elements. The regulator must be prepared to use her discretion in offering of withholding these things, depending on a source's behavior.

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294. *Id.* at 91-94.

295. Beyond the accommodator lies the "retreatist," who does nothing the regulated would not like. *Id.* at 92-93.

296. Gunningham, *supra* note 65, at 70.

297. KEITH HAWKINS, ENVIRONMENT AND ENFORCEMENT: REGULATION AND THE SOCIAL DEFINITION OF POLLUTION 4 (1984).

298. RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW 165-67 (2d ed. 1977).

299. Gunningham, *supra* note 65, at 70. This analysis necessarily makes many simplifications, and leaves many gaps. For instance, the assessment of enforcement style is based on an analysis of enforcement statistics and on interviews with the regulators, without a full survey of the regulated entities. In addition, no agency is monolithic in terms of style. Offices as a whole, however, "seem to adopt positions that on average lean more towards" one style or another. Kagan, *supra* note 55, at 92.

300. BARDACH & KAGAN, *supra* note 67, at 130-31.

B. EBMUD's Division of Regulatory Tasks

In the early stages of regulation at EBMUD, each employee of the Source Control Division[301] performed all regulatory tasks.[302] As the regulatory tasks and laws grew more complex, however, EBMUD informally began distinguishing between field and office regulators.[303] In 1984, EBMUD formally split regulators into the following two job classifications: inspectors, who do the field work; and representatives, who conduct permitting and enforcement.[304] More specifically, wastewater control representatives (commonly called "reps") focus on legal, computing, and administrative tasks. They issue permits, extract fees, and receive and track down reports required to be submitted by sources.[305] The reps also draw up Site Inspection Programs, which tell the inspectors what to check at the site. The inspectors perform the sampling and inspection tasks. They visit the source, check that permit conditions are being met, and take samples, which then go to the EBMUD laboratories. After an inspection, the inspector prepares and sends to the rep a written report about the site. The lab report also goes to the rep. The rep then undertakes any enforcement response he or she deems necessary. The response may include negotiating compliance schedules and sending the inspector out again.[306] EBMUD employees feel that the division of roles has improved efficiency through increased specialization.[307] The division also limits the capacities of each class of regulators, however, and makes them interdependent. The implications of this split for enforcement are discussed below.[308]

C. EBMUD's Regulatory Style: Large Sources

On the whole, EBMUD's inspectors and representatives have exercised discretion in regulating large sources. They have enforced regulations flexibly and developed something of a cooperative regulatory style.

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301. This division, one four within the Wastewater Department, runs EBMUD's pretreatment program. *See* 1991 PRETREATMENT REPORT, *supra* note 19, at 9-10; OPERATING REPORT, *supra* note 13, at 21.

302. Interview with Steve Albritton, Wastewater Control Inspector, EBMUD, in Oakland, Cal. (Apr. 20, 1992) (on file with author). This is still the practice at small POTW's. *Id.*

303. Telephone Interview with Bill Meckel, Wastewater Control Representative, EBMUD (May 5, 1993) (on file with author).

304. There are currently 9 reps and 13 inspectors. *Id.*

305. Interview with Ardy Assadi-Rad, Wastewater Control Representative, EBMUD, in Oakland, Cal. (Apr. 23, 1992) (on file with author).

306. Interview with Cynthia Chapman II, supra note 136; Interview with Mirtha Ninayahuar, Wastewater Control Inspector, EBMUD, in Oakland, Cal. (Apr. 20, 1992) (on file with author).

307. Interview with Ardy Assadi-Rad, *supra* note 139; Interview with Bill Meckel III, *supra* note 119; Interview with Stan Archacki & Mirtha Ninayahuar, Wastewater Control Inspectors, EBMUD, in Oakland, Cal. (Apr. 20, 1992) (on file with author) (comment by Stan Archacki) [hereinafter Interview with Stan Archacki & Mirtha Ninayahuar].

308. *See infra* part IV.C.

There are differences, however, between the inspectors' and representatives' regulatory styles. While inspectors tend to be more legalistic than the representatives, some inspectors have used the limited tools available to them (e.g., not reporting a violation, providing helpful information, or cultivating personal relations) to attempt to form cooperative relationships. EBMUD's reps, however, seem to emphasize a compliance strategy. Although they have been relatively legalistic at the level of minor penalties, they overlook some violations, and have been wary of using more severe sanctions. It is important to recognize, though, that nobody at EBMUD will be flexible when a violation poses a risk to the plant.[309]

1. Inspectors

a. Indicators of a Cooperative Style

A regulator wishing to pursue a cooperative style can begin by offering to listen carefully to a source about its position and problems. Most EBMUD inspectors emphasized the need to relate well with people.[310] To listen to sources fairly, the regulator must have an open mind. One inspector started by believing that he "was to be a policeman, looking to catch them out, that they were guilty until proven innocent," but he has learned that he has to "rely on and trust them, that they are innocent until proven guilty."[311] Part of listening is setting the tone of the relationship so that people at the regulated source feel comfortable expressing themselves.[312] Some inspectors make an effort to create such a tone.

The second thing a regulator can offer is to delay or forbear enforcement.[313] Forbearance for inspectors primarily means not including a violation in a report. In theory, and in the practice of many inspectors, there is no room for forbearance. The role of the inspector is simply to

309. In such a situation, the inspector would immediately issue a cease and desist order (CDO), contact the plant, and if necessary call the police to force the source to stop discharging (although this never has been necessary). In addition, an administrative civil liability (ACL) would almost certainly be assessed if the source continued to discharge, and probably would be assessed even if the discharge was inadvertent and was stopped immediately. Interview with Jennifer Smith, *supra* note 18; Interview with Steve Albritton, *supra* note 302.

310. *E.g., id.*

311. Interview with Mike Walton, Wastewater Control Inspector, EBMUD, in Oakland, Cal. (Apr. 20, 1992) (on file with author).

312. One inspector, for example, tries to avoid an adversarial attitude when entering a source. He has his eyes open, is official, yet casual enough to make the person feel comfortable, and will start by asking safe, non-confrontational questions. Interview with Stan Archacki, *supra* note 203.

313. Inspectors possess some enforcement powers that can be exercised on site. The inspector can put information detrimental to the source in the report and has authority to issue a CDO on the spot. Interview with Ardy Assadi-Rad, *supra* note 139. The CDO must, however, go back to the rep before a Notice of Violation or a fine can be issued. *Id.* If the source refuses to comply, and the situation is serious and urgent, theoretically the inspector could call in the police.

sample and report back everything they see, without interpretation. Officially everything should go into the report, and it is left up to the reps to decide on the response.[314] Most of the inspectors seem to follow this official position.[315]

Some inspectors occasionally exclude minor violations from reports. They can then use that as an incentive to get the source to comply. Reporting a problem does not automatically result in compliance.[316] For example, if a pH reading is borderline noncompliant, the inspector can call it a violation, or a near miss, depending on how well-behaved the source generally is and how likely it is to fix the problem.[317] Only a few inspectors told stories about exercising such discretion.

The potential for harm to the treatment plant,[318] the source's past compliance history,[319] and the nature of the violation all affect the inspector's exercise of discretion.[320] An additional factor is whether the source is cooperating with the regulator. Forbearance is thus sometimes intentionally used to stimulate cooperation. One experienced inspector said that where he has discretion, his decision to use it will depend on whether the source treats him well or is rude and too busy to see him.[321] Along the same lines, another inspector was lenient in following up on an industry compliance officer, even though the source had been in violation, because he felt that the officer was doing his genuine best and was doing a good job overall.[322] This inspector generally would not overlook a violation, however, unless he had been to the source several times and knew the people.[323] Thus, while EBMUD inspectors occasionally use forbearance in exchange for the cooperation of large sources, forbearance is clearly the exception, not the rule.

The third tool a regulator can employ in developing a cooperative relationship is to provide information. EBMUD inspectors are not supposed to act as consultants to sources.[324] EBMUD neither tells sources what to do, other than where to locate sampling, nor advises them.[325] In

314. Interview with Stan Archacki, *supra* note 203.

315. One inspector said that she *always* reports violations: "If it's a violation, it's a violation." Even if the source corrects the problem straight away and asks that it not be reported, she will always report it. Interview with Jennifer Smith, *supra* note 18.

316. Interview with Bill Meckel III, *supra* note 119.

317. Interview with Steve Albritton, *supra* note 302.

318. Interview with Jennifer Smith and Mike Walton, Wastewater Control Inspectors, EBMUD, in Oakland, Cal. (Apr. 20, 1992) (on file with author); Interview with Steve Albritton, *supra* note 302.

319. Interview with Jennifer Smith, *supra* note 18.

320. Interview with Cynthia Chapman II, *supra* note 136.

321. Interview with Steve Albritton, *supra* note 302.

322. Interview with Stan Archacki & Mirtha Ninayahuar, *supra* note 307.

323. *Id.*

324. *Id;* Interview with Jennifer Smith, *supra* note 18; Interview with Steve Albritton, *supra* note 302.

325. Interview with Steve Albritton, *supra* note 302.

any event, inspectors regulate so many different types of industry that they cannot be experts on all of them.[326] They are supposed to go no further than providing lists of consultants, offhaulers, recyclers, other advisory agencies, and trade associations.

In practice, however, some inspectors see their role as helping sources to solve problems.[327] Inspectors and representatives will receive more respect from sources if they understand the processes and equipment involved and can see what is wrong and how it could be improved.[328] An inspector who knows a lot about an industry might tell a source what she has seen other sources doing to solve a given problem.[329] The lack of a clear practical ban on advising sources is reflected in the words of one inspector: "we do counsel, but not consult."[330] Nevertheless, in the context of large sources with complex processes, when there may only be one or two of this type of source in the district, an inspector is unlikely to be able to give much advice.

b. Ability to Be Tough

The most drastic power the inspectors have is the ability to issue a CDO on the spot. Inspectors would typically do this only for very serious matters, for example if they saw a bypass or a discharge of hazardous wastes. They do not often issue these orders, but when they do, sources generally comply.[331] Inspectors' only other formal coercive power is to report violations. As noted above, they do this frequently.

Inspectors can also convey toughness without formal enforcement, by their manner and behavior. The representatives say it is important for an inspector to be able to be the bad guy, to act like a cop who "comes off tough," if necessary, with the least compliant sources.[332] One inspector suggested that inspectors should be strict but understanding.[333] The inspector should start by being cooperative with sources. If he has given them information and asked them to do something, and they do not, however, then he has to be tough.[334] Not all the inspectors engage in this sort of coercion; some simply state their point and leave.[335]

In sum, it seems that with respect to large sources, some of the inspectors do make an effort to develop a cooperative relationship, by giv-

326. Interview with Jennifer Smith, *supra* note 18.

327. Interview with Steve Albritton, *supra* note 302. "If we were just strict enforcement, [there would be] a lot more people closing down and moving out." *Id.*

328. Interview with N. Jo Chapman I, *supra* note 83.

329. Interview with Jennifer Smith, *supra* note 18.

330. Interview with Steve Albritton, *supra* note 302.

331. Interview with Jennifer Smith, *supra* note 18.

332. Interview with N. Jo Chapman I, *supra* note 83.

333. *See* Interview with Steve Albritton, *supra* note 302.

334. *Id.*

335. Interview with Stan Archacki & Mirtha Ninayahuar, *supra* note 307.

ing advice, being lenient at times, and presenting a tough appearance when necessary. However, the common stance is closer to legalism.

2. *Representatives*

The reps have more interaction with large sources' management than do the inspectors. Reps exercise the formal enforcement powers and set the goals that the sources are supposed to meet.[336] Since the reps actually make the final enforcement decisions, the enforcement statistics give a preliminary idea of the reps' enforcement style.[337] A review of the *1990 Pretreatment Report*[338] shows that in almost all cases where EBMUD detected a violation, it increased the number of inspections and self-samples and imposed a followup inspection and fee. The reps' consistent enforcement action—even in cases where testing may well have been inaccurate[339] or where the discharge was inadvertent[340]—indicates a strong legalist stand.

Nonetheless, the statistics hide some of the leniency that exists in practice. While reps are clearly willing to be tough on violations, they also try to foster cooperation through the exercise of discretion. Forbearance is the only item reps have to offer sources in exchange for compliance. One way the program is more lenient than the *1990 Pretreatment Report* data suggest is that the district does not regard late reporting by sources as a violation until after a number of informal steps have been followed. Representatives may also "overlook" some violations. If a pH reading is below the limit just for an hour or so, for example, the rep can exercise discretion in deciding whether to call it a violation.[341] In some circumstances, the rep also has discretion to issue a CDO and to require more or fewer inspections. Reps recognize that enforcement requires discretion and that a purely legalistic approach is inadequate. As one rep

336. A rep has authority—sometimes subject to authorization from the Manager of Source Control—to vary permit conditions and terminate permits for violations. Ordinance 311, *supra* note 49, tit. IV, § 6. He may require a source to undertake a schedule of preventative action, issue a cease and desist order (CDO) or a compliance order, recover costs for any damage to district facilities, or cut off water service. *Id.* tit. VI, § 1. Failure to comply with an order may lead to fines of up to $10,000 per day. *Id.* § 4. Intentional or negligent violation of an order issued for violation of discharge rules that causes or threatens to cause contamination, pollution, or a nuisance can result in fines of up to $25,000 per day. *Id.* §§ 3-4. He may also issue a complaint and then impose administrative penalties of up to $1000 per day for knowingly failing to furnish reports, $5000 per day for intentionally or negligently discharging hazardous waste or knowingly falsifying any information, and $10 per gallon for discharges in violation of CDO's. *Id.* § 2(b). The district may also pursue civil and criminal judicial penalties. *Id.* §§ 3-4.

337. EBMUD's enforcement statistics are set out in chapter five of each year's Pretreatment Report. *E.g.*, 1992 PRETREATMENT REPORT, *supra* note 2, at ch. 5.

338. 1990 PRETREATMENT REPORT, *supra* note 13.

339. *E.g., id.* at 5-14, 5-16.

340. *E.g., id.* at 5-28; 1991 PRETREATMENT REPORT, *supra* note 19, at 5-20.

341. *See* Interview with Stan Archacki, *supra* note 203.

stated, "[i]t drives industry crazy if you enforce the law no matter what."[342]

In addition, particularly onerous penalties are quite rare. There have been no court actions against large sources in the last few years. Since 1989, the reps have had the power to impose substantial administrative civil liability penalties (ACL's).[343] Although ACL's are easy tools for EBMUD to use, not many have been imposed.[344]

EBMUD has another strong deterrence tool that it prefers not to use. Once each year, the district publishes in the *Oakland Tribune* a list of any sources that were in significant noncompliance (SNC) during the year. Large and sophisticated organizations concerned about potential negative publicity will seek to avoid being published. With these sources, rather than publishing a notice for deterrence purposes, the district uses publication as a bargaining chip to encourage cooperation.[345] This use of the SNC list is a further example of a flexible and cooperative regulatory style in a situation where it would be easy for EBMUD to resort to a legalistic approach.[346]

Thus, a closer look at the reps' regulatory style indicates that they are in general much more oriented to compliance. While often legalistic regarding minor penalties, they rarely use more serious sanctions. Reps feel that management wants them to maintain a cooperative, working relationship with sources.[347] They try to help people into compliance, recognizing that as long as progress is being made, they can overlook some minor violations that do not threaten the plant.[348]

D. EBMUD's Regulatory Style: Small Sources

Three predictions can be derived from the political science literature about how regulatory agencies will approach small source regulation. One model suggests that agencies are likely to be lenient with small sources because they only cause a small part of the problem; their non-

342. Interview with N. Jo Chapman I, *supra* note 83.

343. Ordinance 311, *supra* note 49, tit. VI, §§ 1-2. *See supra* text accompanying note 336. The reps prefer imposing ACL's to going to court because, although the district still wants to win, and still has to get things right in case of an appeal, there are fewer people watching the process, and it is cheaper. Interview with Bill Meckel II, *supra* note 105. In addition, appeals go up through EBMUD, to the EBMUD Board, before going into the regular court system. Ordinance 311, *supra* note 49, tit. VI, §§ 1(e) & 2(c).

344. 1990 PRETREATMENT REPORT, *supra* note 13, at 1-10.

345. Interview with N. Jo Chapman I, *supra* note 83.

346. Note, however, that the EPA's institution of Technical Review Criteria is reducing some of the EBMUD's discretion regarding the use of SNC lists. *See infra* note 403.

347. Interview with anonymous EBMUD Wastewater Control Representative (on file with author).

348. Interview with N. Jo Chapman I, *supra* note 83. *See also supra* notes 318-20 and accompanying text.

compliance will not have serious consequences.[349] According to the second model, because inspectors will not be able to visit the numerous small sources often and because the sources will be less compliant than large ones,[350] agencies will be strict and even harsh to deter noncompliance.[351] The final prediction is that the agencies will reduce their scope for discretion and increase the formalism and bureaucracy of their enforcement schemes, to forestall complaints that they needlessly prosecute very small contributors or that they do not treat all competitors similarly.[352]

None of these predictions are fully borne out by the experience of EBMUD's inspectors in regulating small sources. They have taken on much more of a compliance strategy than they follow with regard to large sources. They have become more flexible and give more information. The reps, on the other hand, have behaved in accordance with the second model, adopting more of a deterrent approach and imposing harsher sanctions for serious violations.

1. Inspectors

a. Indicators of a Cooperative Style

Listening, forbearance, and information provision featured much more prominently in conversations with inspectors regarding small sources than regarding large ones. Some inspectors emphasized that listening carefully is especially important with small sources, particularly when the source's owner can not communicate easily in English.[353] One inspector stated that where he felt noncompliance might have resulted from language difficulties, he used an interpreter to explain the regulations and did not report violations.[354]

Some inspectors go out of their way to develop a closer bond with the source. One outgoing inspector drops in socially to see sources when he is nearby. As a result, he finds that sources are willing to contact him when they have a violation and to ask what they should do. He tells them to report to EBMUD. They still receive a followup inspection and fines, but they feel good about their relationship with the agency because

349. *See generally* Kagan, *supra* note 55, at 104-05 (suggesting that regulators consider the seriousness of the risk of the source's activity).

350. *See supra* part I.D.1.

351. *See* Kagan, *supra* note 55, at 103; Malecha, *supra* note 212, at 470. *See generally* Shover et al, *supra* note 74 (comparing regulation of large and small mining operations). This is the deterrence strategy.

352. *See generally* Malecha, *supra* note 212, at 462-65, 474-77 (examining regulation of small boatyards).

353. E.g., Interview with Stan Archacki, *supra* note 203.

354. Interview with Steve Albritton, *supra* note 302.

they have cooperated. The sources will also give information to the agency about other businesses.[355]

With large sources, inspectors tend to be legalistic, listing all violations in their reports.[356] In contrast, many inspectors will forbear on a small source and delay enforcement. They will allow the source to remedy a violation or will interpret evidence in the source's favor. One inspector specifically said that in the context of a small business he would consider being more flexible.[357] An inspector can exclude violations from the report, or identify problems on the initial inspection, offering to return later to conduct the "final inspection."[358] For instance, an inspector might allow a drycleaner one week to dismantle a pipe that was not discharging but needed to be removed.[359] One photoprocessor purchased the required canisters but had not installed them because he did not know how to do so. The inspector did not report this, referred the source to an installer, and came back the next week to check.[360] Helping a source to complete paperwork is another example of forbearance.[361]

While inspectors may freely provide sources with referrals to recyclers, offhaulers, consultants, and advisory agencies, they are not supposed to advise sources about how to comply with regulations. Nonetheless, inspectors recognize the benefits of being able to give technical advice. Because small sources have simpler machinery and more standard processes than large complex sources, inspectors are more likely to be able to advise them. One inspector says that he will advise sources, but only after "stepping out" of his inspector role and into the role of experienced engineer. Even so he recognizes that doing so involves significant risk.[362]

Another sign of inspectors' accommodative style with respect to small sources is their effort to sell them on the need for regulation.[363] Inspectors have justified the regulations in the following two ways: first, by pointing out the social harm that flows from the activity to be regulated; and second, by using state or federal legal requirements as a scapegoat. For example, when sources ask why they must comply, an inspector would explain that EBMUD has to comply with its permit and the law, and that includes running this program.[364] Alternatively, an

355. Interview with Steve Albritton, *supra* note 302.
356. *See supra* notes 314-15 and accompanying text.
357. Interview with Stan Archacki, *supra* note 203.
358. Interview with Steve Albritton, *supra* note 302.
359. *Id.*
360. Interview with Stan Archacki, *supra* note 203.
361. Interview with Mirtha Ninayahuar, *supra* note 306.
362. Interview with anonymous EBMUD Wastewater Control Inspector (on file with author).
363. *See supra* note 201.
364. Interview with Jennifer Smith, *supra* note 18.

inspector might explain that compliance is necessary to protect EBMUD's plant.[365]

b. Ability to Be Tough

Inspectors also stressed the ability to be tough when necessary as essential to an effective compliance strategy for small sources. One inspector emphasized that he tells sources beforehand exactly what is going to happen if they do comply, what will happen if they do not, and that the choice is theirs. He then acts strictly according to what he set out beforehand, so the sources understand why he behaved as he did and that he was serious.[366]

In practice, this inspector does not always follow through on threats, but may give the source another chance. For example, at the drycleaner referred to above where a pipe needed to be removed,[367] when the inspector returned a week later, it was not done. He told the owner to do it then and there, or it would be a violation.[368] While an appearance of toughness was maintained, forbearance was also exercised.

In summary, it seems that EBMUD's inspectors significantly changed their enforcement style when interacting with small sources. At least some of the inspectors are much more flexible and interactive with the small sources than with the large ones.

2. Representatives

EBMUD's representatives have generally tried to encourage compliance by small sources. More often than with the large sources, however, they have resorted to a deterrence approach, harshly punishing those sources who have not cooperated. Statistics again provide a good starting point. Leaving the electroplaters aside for the moment, although many violations have been noted,[369] there have been few followup inspections, and even fewer penalties.[370] The main reason for the small numbers, however, is that for the first year of permitting, EBMUD pursues a policy of education and non-enforcement. These figures therefore do not necessarily give an indication of future behavior.[371] Perhaps more indicative is the fact that EBMUD has already taken firm action against two

365. Interview with Mirtha Ninayahuar, *supra* note 306

366. Interview with Steve Albritton, *supra* note 302

367. *Id. See supra* text accompanying note 359.

368. Interview with Steve Albritton, *supra* note 302.

369. There were 41 violations noted in 1990. 1990 PRETREATMENT REPORT, *supra* note 13, at 5-36 to 5-40. In 1991, 38 violations were noted. 1991 PRETREATMENT REPORT, *supra* note 19, at 5-26 to 5-30.

370. In fact, there have been only two penalties, one in 1990 and one in 1991. 1990 PRETREATMENT REPORT, *supra* note 13, at 5-36 to 5-40; 1991 PRETREATMENT REPORT, *supra* note 19, at 5-26 to 5-30.

371. Interview with Mirtha Ninayahuar, *supra* note 306.

drycleaners.[372] When the data for platers are included, moreover, the statistics reveal that EBMUD has imposed more severe sanctions (other than to recover costs) more frequently for small sources than for large ones.[373]

These figures suggest that in most cases the reps are quite lenient with small sources, while dealing more harshly with the worst violators. The reps' approach could be characterized as a flexible deterrent strategy. Some bad violators are treated harshly to deter others, while relatively good businesses are not antagonized by legalistic responses to less serious violations.

This impression was confirmed in interviews with the reps. One commented that reps should convey the message that sources must "either comply [with all the regulations], or close and move . . . and pay heavy duty fines."[374] In other words, if a source is bad, it will receive extra heavy treatment, beyond the scope of normal legalistic behavior. The punishment is made severe to deter other sources from breaching the regulations.

On the other hand, the reps also recognized the variety of kinds of violators and the need to treat each differently. In their statements and decisions, the reps indicated that different violators receive different responses.[375] Representatives have thus shown flexibility in choosing the appropriate enforcement response, relying on their impression of the sources' culpability in exercising their discretion.

In fact, with the start of the small business program proper, EBMUD seems to have made a conscious decision to pursue a flexible deterrent strategy. If a violator could be found, the agency would use it

372. Virginia Cleaners was assessed a penalty of $90,000 in 1990. 1990 PRETREATMENT REPORT, *supra* note 13, at 1-11. On appeal, the fine was reduced to $27,000, and was subsequently upheld by the Alameda County Superior Court. 1991 PRETREATMENT REPORT, *supra* note 19, at 1-20. EBMUD referred the Glovatorium to the police for criminal investigation. *East Bay Drycleaners Charged with Dumping Waste*, S.F. CHRON., Apr. 15, 1993, at A15; Interview with Steve Albritton, *supra* note 302.

373. EBMUD filed a civil suit against Aeroplating, which subsequently went out of business. Interview with Bill Meckel II, *supra* note 105. Aeroplating eventually became a Superfund site. The agency referred the owner of Leedy Plating, who was dumping his and other people's waste illegally, to the police. In August, 1992, the owner was convicted, sentenced to five years probation, and fined $400,000. Marie Felde, *Toxic Convict Gets Probation*, OAKLAND TRIB., Aug. 7, 1992, at A3; Tracie Reynolds, *EPA Orders Cleanup at Plating Firm*, OAKLAND TRIB., Dec. 23, 1992, at B3. Although the District Attorney brought the case, EBMUD inspectors gave evidence.

374. Interview with Ardy Assadi-Rad, *supra* note 139.

375. One rep was ready to be much more aggressive with one source, the owner of which she perceived to be wilfully noncompliant, than with another which she perceived to be just sloppy. Interview with N. Jo Chapman I, *supra* note 83. EBMUD used an ACL, rather than criminal referral, for one source which kept discharging perc for nine days after the district imposed a CDO because it considered the source negligent, not criminal. Interview with Bill Meckel III, *supra* note 119. In contrast, EBMUD referred another source to the police because it was bypassing the treatment system and dumping other people's waste as well. *Id.*

"to scare everyone."[376] EBMUD found the deterrent example it sought in Virginia Cleaners. It maximized the effect by issuing a press release, and made sure that all other sources were aware of this case.[377]

Indeed, whenever EBMUD catches and punishes a major violator, it notifies all the other sources in the industry. In this way, EBMUD keeps other sources aware of its presence and warns of the dangers of noncompliance.[378] EBMUD also publishes information about criminal investigations in its annual reports.[379] It seems that EBMUD uses such notices and information as a deterrent more consciously for small sources than for large ones. While the deterrence exercise has been unusual for EBMUD, reps feel that negative publicity is a good enforcement tactic and should be used more often.[380] The district is considering searching out more exemplar cases to enforce strongly and using notices about serious punishments more, perhaps in a newsletter.[381]

In conclusion, while inspectors are playing a more interactive and cooperative role with small sources than with large ones, it seems that reps are adopting more of a deterrence strategy. One of the predicted outcomes derived from the regulatory literature was that regulators would become more deterrence oriented with the shift to small source regulation. Reps appear to be fulfilling this prediction. It must be emphasized, though, that they have adopted a flexible deterrence strategy; not all violators are treated harshly. The inspectors are developing a more flexible and cooperative strategy, a result not predicted from the literature. In the next part, I explore some of the factors that may explain why inspectors and reps have adopted their particular styles.

IV

FACTORS INFLUENCING REGULATORY STYLE

To make the descriptive conclusions of the previous part more meaningful and to derive information that can be applied more generally, this part identifies and discusses the most important variables shaping the inspectors' and reps' styles. In particular, I focus on explaining why regulators were sometimes flexible. While flexibility is a desirable ap-

376. Interview with N. Jo Chapman I, *supra* note 83. It requires a conscious decision to do this, as it demands extra resources. To be effective, really bad sources should be targeted, but these tend to be harder to catch because they may be consciously concealing their activities. Once they are caught, EBMUD has to gather evidence strong enough to stand up in court, because with a large penalty, a court challenge is more likely.

377. *Id.*

378. *Id.*

379. All response actions by EBMUD are set out in chapter 5 of each year's pretreatment report. Significant violations, with the agency response, are listed in chapter 1. *See, e.g.*, 1990 PRETREATMENT REPORT, *supra* note 13, at ch. 1, ch. 5; 1991 PRETREATMENT REPORT, *supra* note 19, at ch. 1, ch. 5 (no criminal prosecutions were initiated in either of these years).

380. Interview with N. Jo Chapman I, *supra* note 83.

381. *Id.*

proach,[382] it is also the most difficult and stressful to pursue. Constantly adjusting enforcement choices through careful assessment of the source and its behavior is harder than simply applying rules legalistically or ignoring sources.[383]

Kagan groups the factors that shape an agency's style into the following three areas: the "political environment"; the regulatory "legal design"; and the "task environment." The political environment includes both "the organization of interest groups" and "the preferences of political authorities."[384] The legal design includes three factors:

> (a) the ways that the authorizing legislation and the primary regulations define the agency's regulatory mission; (b) the powers the statute grants the regulators, the rights it accords regulated enterprises, and the rights it gives to advocates of strict regulation; and (c) the specificity with which the law prescribes the standards, procedures, and remedies to be employed in case-by-case administration.[385]

The task environment also comprises three factors: "(a) the frequency of interactions between regulators and regulated enterprises; (b) the size and sophistication of regulated firms; and (c) the cost of compliance, viewed in terms of the economic resilience of regulated enterprises and the seriousness of the hazards to be controlled."[386] I have adopted this framework, inserting one additional category, "intraorganizational structure," which refers to the structure and ethos of the agency itself.

A. Political Environment

The principal political pressures on EBMUD come from environmental groups, small business associations, and individual citizens.[387] The most significant actors in EBMUD's political environment are the environmental groups. In March 1991, for example, the agency spoke to the Sierra Club Committee on Improper Drain Disposal of Toxic Waste.[388] In April, it took nine Sierra Club members on a tour of the plant.[389] Threat of suit by environmental groups was one of the factors that pushed EBMUD to permit small metal finishers.[390] At times since then, the Sierra Club, Citizens for a Better Environment, and Green-

382. *See supra* part III.A.

383. Interview with N. Jo Chapman I, *supra* note 83; *see also* BARDACH & KAGAN, *supra* note 67, at 152-54.

384. Kagan, *supra* note 55, at 106.

385. *Id.* at 95.

386. *Id.* at 101.

387. Citizen complaints are not usually an issue for EBMUD. NPDES standards are strict enough that people generally do not complain about Bay water. Interview with Mirtha Ninayahuar, *supra* note 306.

388. 1991 PRETREATMENT REPORT, *supra* note 19, at 1-5.

389. *Id.*

390. *See supra* note 117 and accompanying text.

peace have looked over the source control program, but the agency has always received positive feedback, according to one rep.[391]

As long as EBMUD's effluent and discharge comply with applicable standards and its enforcement program continues as at present, neither citizen groups nor environmental groups are likely to interfere heavily in its small source permitting and enforcement programs. The only people unhappy about the small business program are the small businesses, and they do not have much political, legal, or economic clout with EBMUD. Thus, while EBMUD always faces the residual threat of interference if it falls away from current effluent standards, for the moment it is relatively free from outside pressure in these programs; it need not respond to charges that it is being too harsh or too soft on industry. With a successful program and weak industry resistance, EBMUD has a wide zone of discretion at the political level in setting its style.

B. Legal Design

The legal design can have an important influence on the style a regulator adopts. The legislature provides the tools available for the regulator; if there is not a sufficient range of tools, flexibility becomes more difficult. Stringent or critical oversight will significantly impact agency behavior and may push the agency towards legalism. Clarity of mandate and policy is also relevant. Without a clear mandate, an agency will have to be more accommodating to achieve compliance. Without a clear policy as to when to enforce, regulators will find it harder to be flexible, as they will be more open to charges of being arbitrary. The tendency would then be to be either legalistic or lax.

The following five aspects of the legal design have affected the regulatory style of EBMUD's small source program: oversight; legal mandate; complexity of the legal regime; nature of enforcement powers; and the clarity of its policy directives.

The regional board oversees EBMUD and is the most influential figure in its legal environment.[392] EBMUD operates within the constraints of the effluent limits the RWQCB imposes on it under the CWA and the Porter-Cologne Act.[393] For this reason, the RWQCB is the primary enforcer of the POTW's effluent standards. The regional board, for its part, is mainly concerned with water quality.[394] It receives reports and periodically conducts inspections.

391. Interview with Bill Meckel II, *supra* note 105.

392. EPA also oversees EBMUD; it considers EBMUD's program "well-managed and effective." 1990 PRETREATMENT REPORT, *supra* note 13, at 6-108 (quoting Ken Greenberg, Chief of California Permits and Compliance, U.S. EPA).

393. *See supra* part I.B.

394. Interview with Michael Chee I, *supra* note 102.

The regional board is gradually tightening water quality and discharge control limits throughout the Bay area. This ongoing process is an important influence on EBMUD's expanding control efforts.[395] In an effort to stay ahead of the board's requirements, EBMUD watches all policy developments closely.[396] Because EBMUD is relatively well within compliance, however, it can afford to be somewhat flexible.

Oversight does not seem to impact the enforcement program directly. However, it does so indirectly through its tight monitoring of the plant. Discharges from the plant must comply with effluent standards, and the RWQCB requires extensive and detailed reporting.[397] This constant review acts as a basic touchstone for regulators at EBMUD. All the inspectors and reps refer to their mission as being to protect the plant[398] and, through that, meeting NPDES limits and ensuring the continuation of the plant's operation. Thus, while regulatory oversight leaves open a range of discretion, it also ensures a basic level of attentiveness.

Despite the statutes and oversight under which EBMUD operates, it lacks an explicit legal mandate to regulate most small sources.[399] As mentioned in the context of permitting, with the exception of platers, EBMUD has had to work harder to gain the cooperation of small sources because the problems are less clear and it has no clear obligation to point to. The work of obtaining cooperation must be done not only during the permitting process, but continuously as the permittee is regulated. Because the inspectors are the ones in closest contact with sources, the burden of obtaining cooperation falls more onto their shoulders than onto those of the reps. At small sources, therefore, inspectors work harder and are more flexible, in an attempt to gain cooperation. The lack of mandate is perhaps the first element in explaining both the absence of legalism and why inspectors are more cooperative in style than reps are.

The framework of laws and regulations within which EBMUD operates has become increasingly complex over the last twenty years. To know what limits to set, what requirements to make, and how to enforce, regulators need more and more legal expertise. In addition, the number of regulated sources is increasing in response to regulatory pressures. Both EPA and the RWQCB require EBMUD to file a significant amount of paperwork regarding permits and enforcement for each source. With so many requirements and so little time one would predict that regulators might exercise less discretion.

395. *See* Interview with Cynthia Chapman I, *supra* note 84. *See supra* part I.D.2.

396. For example, EBMUD started its efforts to reduce silver influent in response to tightening of silver control. Interview with Cynthia Chapman I, *supra* note 84.

397. *See* NPDES Permit, *supra* note 45.

398. *See supra* note 309 and accompanying text.

399. *See supra* parts I.B-C.

The burden of most of these requirements falls on the reps, and it seems that they are indeed experiencing difficulties keeping up with the demands of their enforcement tasks. One rep felt that while the reps are so busy with tasks such as oil and grease limits (set in anticipation of EPA requirements) and growing information-tracking requirements, they sometimes do not have time to attend properly to other enforcement matters. As a result of these demands, reps cannot respond to other violations in a timely manner.[400] The pressure to be minimally legalistic may well continue to grow as regulation becomes more and more complex.

By contrast, the reps consider their enforcement powers sufficient to allow them to deal adequately and flexibly with sources.[401] The rep can choose to do any or all of the following: place a phone call; issue a notice of violation and order a followup inspection; issue a CDO with accelerated inspection; publish the violator's name; alter permit conditions (including number of inspections); assess an ACL; and file a civil or criminal suit. The large number of options is an important factor in allowing reps to tailor individualized responses to different situations.

A good enforcement policy must be sufficiently clear. A clear enforcement policy makes it much easier to attract industry's attention and maintain its cooperation. With clear policies, reps can be consistent with sources. If the policy is fluid, on the other hand, it becomes harder to enforce and make sources understand what is important.[402]

EPA, which supervises the source control program, recently required EBMUD to adopt Technical Review Criteria (TRC) outlining enforcement actions to be taken in specific situations.[403] These criteria, or guidelines, make EBMUD's enforcement policy clearer and stronger.

400. Interview with anonymous EBMUD employee (on file with author).

401. *See supra* part III.B.

402. Interview with N. Jo Chapman I, *supra* note 83.

403. In 1990, EPA adopted regulations requiring POTW's, such as EBMUD, to adopt the TRC in enforcing their ordinances. 40 C.F.R. § 403.8 (1992). The regulations were adopted under the authority of CWA, 33 U.S.C. § 1317(b) (1988). The TRC set out strict objective definitions of compliance and list actions that must be taken in response to varying degrees of noncompliance. The TRC apply to all sources. Perhaps the most significant consequence of this change is that EBMUD, which previously did not impose fines for paperwork deadlines, must now begin enforcing these deadlines. Interview with N. Jo Chapman I, *supra* note 83. EBMUD had considered failure to provide paperwork as noncompliance, rather than a violation, and responded only informally. Telephone Interview with Tom Paulson, Supervisor, Industrial Discharger Section, EBMUD (Mar. 10, 1992) (on file with author). If a report is 30 days late, the source is in "significant noncompliance" (SNC). *See* 1991 PRETREATMENT REPORT, *supra* note 19, at 2-3. Sources that violate permits during a quarter and are not shown to be in compliance at the end of a quarter automatically are deemed to be in SNC. Once a source is in SNC, it comes under a CDO, has more frequent inspections, and will be included in a list of noncompliant sources published annually in the *Oakland Tribune*. *See, e.g.*, OAKLAND TRIB., Mar. 16, 1992, at C10. The source must be in "consistent compliance" (i.e., have no violations) for two quarters before coming out of CDO and SNC. Interview with N. Jo Chapman I, *supra* note 83.

Part of the reason that EBMUD never levied fines for paperwork violations before was the lack of an appropriate scale: all fines would have to be the standard $625. Now a lower fee has been set specifically for paperwork violations. Together with the thirty-day reporting limit, these fines give the reps a credible threat to force the sources to report on time.

However, the new guidelines also specify the consequences that must follow from various actions. In this way, they counter "the flexibility we have allowed ourselves in the past, [and] force a technical tracking on us."[404] Regulators feel that with such guidelines, "we are locking ourselves down to less and less flexibility."[405] The guidelines have sparked three other common criticisms. First, most reps dread enforcing the paperwork violations. One rep commented that the new system is not sensible; "someone late with their paperwork is treated the same as a big discharger."[406] Second, the guidelines dictate a rigid procedure for sources defined as being in significant noncompliance.[407] An SNC results in automatic issuance of a CDO, accelerated inspections, and publication in the local newspaper. There is no room for discussion; the formula is strict.[408] Third, these rules assume perfection in sampling and analysis.[409] In the past, EBMUD could use the limited nature of its data as a reason to be flexible with a good source. Although EBMUD would impose a followup inspection, the source would not necessarily receive a CDO.[410]

Because the TRC guidelines are relatively new, they have not yet had a decisive effect in changing enforcement style. Instead regulators are resisting the implications of the guidelines and trying to mold them to suit the more flexible style they have adopted. While over time EBMUD may yield to increased legalism due to the TRC, for the moment, the guidelines seem to be more of an obstacle and irritant to the style that exists. The regulators' resistance to this new legal constraint suggests that the determinative factors in shaping enforcement style lie elsewhere than in the legal environment.

C. *Intraorganizational Arrangements*

The political and legal environments have a more or less neutral impact on enforcement style and do not, in many cases, significantly dif-

404. Interview with N. Jo Chapman I, *supra* note 83.

405. Interview with Bill Meckel III, *supra* note 119; *See also* Interview with N. Jo Chapman I, *supra* note 83.

406. Interview with Bill Meckel III, *supra* note 119. Many of these reports have nothing to do with pollution. They only regard the rates charged. Interview with N. Jo Chapman I, *supra* note 83.

407. Interview with Bill Meckel III, *supra* note 119. *See supra* note 403.

408. Interview with Bill Meckel III, *supra* note 119.

409. Perfection would require more extensive, and more expensive, sampling. *Id.*

410. *Id.*

fer from large to small sources. I would suggest, in contrast, that the way roles are distributed between inspectors and reps, the practice of rotation, the level of supervision, and the recruitment policy of EBMUD combine to push EBMUD towards a more legalistic style. These factors will be discussed below. The fact that a legalistic style has not been adopted, however, means that other factors influencing EBMUD's style must subsequently be explored.

The bureaucratization of labor at EBMUD, in the form of divided regulatory roles, pressures inspectors to be less flexible and to include everything in their reports.[411] Formally, the inspector is supposed to be simply a monitoring and recording "automaton."[412] Some reps do not expect inspectors to exercise judgment; either a sample passes or it does not, either the paperwork is done or it is not.[413] Other reps recognize that there is some need for flexibility on the part of the inspectors. As one rep said, even at large sources inspectors "are dealing with people," and they play a key role at the site in setting the agency's relationship with the source.[414] The bureaucratic setup of EBMUD should thus push the inspectors toward a legalistic style.

EBMUD's inspectors are rotated every eighteen months to two years. Rotation is perceived to have many advantages. It prevents the inspectors and sources from becoming stale and complacent with each other.[415] Rotation can also reduce industry's ability to exert excessive influence over inspectors, a phenomenon known as "capture theory."[416] Today there is a great deal of skepticism about capture theory, particularly in light of the increased participation of a range of interest groups in the regulatory process.[417] Even the skeptics, however, recognize that in-

411. *See generally supra* note 315 and accompanying text.

412. Interview with N. Jo Chapman I, *supra* note 83.

413. *E.g.*, Interview with Cynthia Chapman II, *supra* note 136.

414. Interview with N. Jo Chapman I, *supra* note 83. The division of roles also makes both inspector and rep dependent on communication with the other to be as effective and flexible as possible. In this context, where communication processes are not reliable, there will be a tendency to legalism. *See id.*; Interview with Cynthia Chapman II, *supra* note 136.

415. Interview with N. Jo Chapman I, *supra* note 83; Interview with Stan Archacki & Mirtha Ninayahuar, *supra* note 307; Interview with Steve Albritton, *supra* note 302; DIMENTO, *supra* note 18, at 180.

416. According to capture theory, an agency can come to represent the interest of the industry to be regulated, rather than that of the general public. *See, e.g.*, Alfred C. Aman, Jr., *Administrative Equity: An Analysis of Exceptions to Administrative Rules*, 1982 DUKE L.J. 277, at 326-27 n. 209 (citing MARVER H. BERNSTEIN, REGULATING BUSINESS BY INDEPENDENT COMMISSION 267-71 (1955)). The view is that "repeated contact with representatives of a single industry, intensely interested in regulatory policy and appointments, would gradually draw regulatory officials toward an 'industry orientation,' in which their view of the public interest coincided with that of the dominant firms in the regulated industry." Kagan, *supra* note 55, at 106-07.

417. DIMENTO, *supra* note 18, at 108-10; Kagan, *supra* note 55, at 107.

dustries with large resources will still be able to exercise a great deal of influence over a regulatory agency or co-opt inspectors.[418]

Rotation, however, generally leads to a more legalistic style.[419] Cooperation depends on a continuity of relations. The inspector, for example, may overlook a technical violation because she is aware of an important mitigating factor, or to gain the source's greater cooperation in resolving a more important violation as soon as possible.[420] It takes time to create a working relationship between a source and regulator.[421] Rotation necessarily breaks that relation of trust. Legalism is thus more likely to prevail in the period immediately after a rotation.[422] At EBMUD, if an inspector has not dealt with a source in the past, there is no formal system for providing her with information about its past compliance history.[423] On balance, therefore, rotation at EBMUD probably tends to increase the degree of legalism in enforcement style.

Regulators generally have a large degree of independence and discretion in interacting with sources, and it has been shown that their style is significantly influenced by their personal attitudes and beliefs.[424] Supervisors can play an important role in shaping the attitudes of their staff by setting guidelines and criteria, thereby encouraging a certain view of their agency's function and the nature of sources. In his study of the Forest Service, Kaufman wrote:

> In the last analysis, all influences on administrative behavior are filtered through a screen of individual values, concepts and images. Some signals are screened out, some come through in full force, some are modified or attenuated. To the extent the leaders of an organization can manipulate the screen, they can increase the receptivity of field personnel to organizational directives, decrease their receptivity to outside influences.[425]

Supervision is particularly important in developing a flexible style because flexibility can be difficult.[426] The supervisor can play an impor-

418. DIMENTO, *supra* note 18, at 110; BARDACH & KAGAN, *supra* note 67, at 158; Kagan, *supra* note 55, at 107.

419. BARDACH & KAGAN, *supra* note 67, at 158.

420. *Id.*

421. Interview with Stan Archacki & Mirtha Ninayahuar, *supra* note 307; DIMENTO, *supra* note 18, at 179-80.

422. Bardach & Kagan suggest that the costs of rotation (in increased resentment by the industry and reduced specialization) may well outweigh any benefit that may come in the form of reduced co-option of inspectors. BARDACH & KAGAN, *supra* note 67, at 158.

423. The inspector can discover some of this information on her own by checking the computer records. Not all violations or services may be officially recorded. Interview with Stan Archacki & Mirtha Ninayahuar, *supra* note 307. One new inspector intends to do this. Interview with Mike Walton, *supra* note 311.

424. David M. Hedge et al., *Regulatory Attitudes and Behavior: The Case of Surface Mining Regulation*, 41 W. POL. Q. 323, 323-24 (1988).

425. HERBERT KAUFMAN, THE FOREST RANGER: A STUDY IN ADMINISTRATIVE BEHAVIOR 222-23 (1967).

426. *See supra* part IV.B.

tant role in developing criteria to guide flexibility.[427] In the absence supervisory support, more of the burden of flexibility will fall on the individual regulators, who may be more inclined to be either legalistic or lax.

The reps seem to be well supervised at EBMUD. Their supervisor reviews permit conditions and compares these against other data, reviews non-routine letters and violation notices, standardizes procedures, and tracks enforcement. According to one rep, he keeps everyone on track,[428] supporting reps in their exercise of discretion.

The supervisor of the inspectors takes a much less interventionist stand. He only knows what the inspectors tell him or is reported. The supervisor rarely accompanies an inspector to a site. Sometimes two inspectors will ride together and observe each other, for example, when rotations occur or when a source needs two inspectors. The inspectors normally make their comments to each other and work differences out between them, rather than going to the supervisor.[429] This low degree of supervision is due, at least in part, to the experience and training of the inspectors—half of them have been with EBMUD for at least five years[430]—and in part to the largely mechanical role inspectors are supposed to play.

In practice, the inspectors exhibit wide variation in style regarding how much detail they include in reports, how actively they look at processes, how they interact with contacts, and the extent to which they advise sources.[431] This variation and the presence of a legalistic style among the inspectors may well be due to the lack of a structure and the lack of easily expressed criteria for the exercise of discretion. The inspectors themselves usually had difficulty verbalizing relevant factors for the exercise of discretion.

The new inspectors EBMUD plans to hire[432] may reinforce the legalism latent in the inspector's role. EBMUD's new job classifications emphasize technical training because of the increasing technical complexity of the inspectors' job.[433] Some at EBMUD feel these criteria may attract well-educated but inexperienced inspectors.[434] Such inspectors

427. Supervisors may order reinspections, establish feedback mechanisms from higher regulators, and provide technical support for inspectors in the field. BARDACH & KAGAN, *supra* note 67, at 158-60.

428. Interview with N. Jo Chapman I, *supra* note 83.

429. Interview with Mirtha Ninayahuar, *supra* note 306.

430. *Id.*

431. *See supra* parts III.C.1. and III.D.1.

432. *See supra* note 272 and accompanying text.

433. *See* EBMUD, Job Description, Wastewater Control Inspector I and Wastewater Control Inspector II (revised July 23, 1990, on file with author).

434. Interview with Steve Albritton, *supra* note 302.

are more likely to be legalistic than inspectors with more practical experience.

> Specialized education in detecting environmental perils is rarely balanced with education in economic analysis, problems of production and management, and the need for reasonableness. Graduates of public health schools . . . sometimes are imbued with an ideology of protection that makes them hostile to arguments, based on economic costs or competing values, that some risks are socially tolerable. Moreover, the ability to detect problems is not the same as the ability to work out balanced solutions or to elicit cooperation.[435]

In summary, EBMUD's division of roles, recruitment programs, and lack of close supervision (of inspectors) tend to encourage a legalistic style. While these factors explain some features of the agency's style, they do not explain its strong strain of flexibility

D. Task Environment

The task environment has four main features: the nature of the industry and its compliance level, as perceived by the regulators; the competency of inspectors in the technical processes they inspect; the scale of the consequences of noncompliance; and the frequency of contact a regulator has with each source.

Regulators at EBMUD generally believe that most sources view compliance as important and try to cooperate with the district.[436] At the same time, they recognize the wide variety in the behavior, motivation, and character of sources. Commercial pressures not to comply (e.g., the increased cost disposing of hazardous waste) can lead even compliant sources astray at times.[437] Of sources that violate, EBMUD regulators feel there are generally three categories: those who are ignorant of the regulations; those who are careless or stubbornly persist in their established habits; and those who wilfully violate to save costs.[438]

With the perception of these differences among the permitted sources comes the feeling that different types of violators should be treated differently. In the simplest terms, the ignorant need to be educated (with the threat of sanctions in the background), the stubborn need to be pushed and cajoled, and the wilful violators need to be coerced. This belief in differential treatment inevitably leads to a flexible enforcement strategy.

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435. BARDACH & KAGAN, *supra* note 67, at 154-55.

436. *E.g.*, Interview with Steve Albritton, *supra* note 302; Interview with Jennifer Smith, *supra* note 18.

437. Interview with Jennifer Smith, *supra* note 18.

438. *See id.*; Interview with N. Jo Chapman I, *supra* note 83; Interview with Cynthia Chapman II, *supra* note 136; Interview with Stan Archacki, *supra* note 203.

Regulators generally will consider the economic consequences of compliance in setting their enforcement style. Where a source has a low capacity to comply, legalism is of limited use in obtaining compliance.[439] It also threatens the viability of the business and leads to counterproductive resistance.[440] Regulators take note of these effects, especially where there are no other compliant firms that can take over the "social functions" of the business.[441] Recognizing that small sources have less ability to comply in some circumstances than large sources, inspectors may be more tempted to exclude something from a report and to bring the source into compliance in a less formal manner. EBMUD inspectors and reps, in general, seem to be sensitive to these considerations.

When inspectors are not technically competent in the process they regulate, they are more likely to be legalistic. Such inspectors do not fully understand which problems are serious and which are not, when to get tough and when to give a little.[442] At the same time, if regulators are not well informed about the processes, they cannot make suggestions as to how the processes could be improved to avoid violations or simply to be more efficient. This lack of competence reduces what the regulator can offer the source.[443] For these reasons, inspectors who lack technical competence are less likely to be able to develop cooperative relationships with sources.

At EBMUD, the inspectors and reps all have technical backgrounds. It is easier for inspectors to understand smaller sources' processes, which are simpler and less diverse than at large sources. As a result, regulators will be better able to command respect and elicit cooperation through their competence. They will be able to identify which problems are serious and how processes could be altered to make compliance easier. This ability is an important factor in enabling EBMUD's inspectors to follow a compliance strategy.[444]

Because flexibility relies on the exercise of judgment, it runs the risk of an error of judgment. Particularly where excessive leniency risks potentially disastrous consequences, regulators are under pressure to take the safer and easier route of being more legalistic, reducing their scope for exercising judgment.[445] Because each small source individually discharges only a small amount, however, undue leniency does not run the risk of terrible consequences. For this reason, EBMUD's inspectors can

439. Kagan, *supra* note 55, at 104.

440. *Id.; see also supra* notes 286-87 and accompanying text.

441. Kagan, *supra* note 55, at 104.

442. BARDACH & KAGAN, *supra* note 67, at 128.

443. *See supra* notes 310-30 and accompanying text.

444. EBMUD's inspectors have been more willing to counsel small sources than large ones regarding technical compliance. *See supra* note 362 and accompanying text.

445. *On Regulatory Inspectorates*, *supra* note 284, at 55-57; Kagan, *supra* note 55, at 105.

be less concerned about the risk of being too generous with small sources, and are thus better able to be flexible.

The difference in how frequently reps and inspectors come into contact with sources offers an important insight into why they have adopted different styles. A certain threshold level of contact seems necessary for individual regulators to know sources well enough, and be sure enough of seeing them again soon, to engage in cooperative behavior. As we have seen, there are many more small sources than large sources. As of December 31, 1991, EBMUD had issued permits to 23 electroplaters,[446] 15 radiator repair shops, 105 drycleaners, 43 commercial photoprocessors,[447] and 280 auto repair shops.[448] The total number of permitted small sources is expected to grow by about 1000 over the next four years.[449] The large numbers necessarily reduce the amount of contact the regulators can have with the sources, but the degree of impact is less for inspectors than for reps.

Inspectors still visit most small businesses once each year—as opposed to three times for large sources. This represents a dilution of contact by only one-third. In addition, at least in the first year, inspectors have gone back to small sources several times to help them into compliance. Nonetheless, inspectors feel they still have more to learn about what sources try to get away with and whom they can trust.[450] In comparison, two reps have had to absorb 447 extra sources since the start of the small source program, plus some platers.[451] The previous caseload, spread over seven reps, was approximately 125 sources.[452] This increase almost completely destroys the reps' ability to develop any real contact with most of the small sources.

The reps do not frequently visit any sources, even the large ones.[453] Accordingly, they cannot be as familiar with the people and processes at the source as they might like to be.[454] Lack of familiarity with processes makes it harder for them to see what problems exist and diminishes their stature in the eyes of the sources. Lack of knowledge of the people makes it much more difficult for the rep to judge the seriousness of the reported violation[455] or the cooperativeness of the source and, thus, how

446. 1991 PRETREATMENT REPORT, *supra* note 19, at 5-3.

447. *Id.* at 5-17.

448. Interview with Cynthia Chapman I, *supra* note 84.

449. 1992 PRETREATMENT REPORT, *supra* note 2, at 12-52.

450. Interview with Stan Archacki, *supra* note 203.

451. One rep has 147 drycleaners and photoprocessors, and another has all 280 auto repairers. Interview with N. Jo Chapman I, *supra* note 83; Interview with Cynthia Chapman II, *supra* note 136. The platers, permitted five years earlier, are spread among all the reps. The three reps dealing with the other small sources are still responsible for some larger sources.

452. *See supra* note 58 and accompanying text.

453. *See* Interview with Cynthia Chapman II, *supra* note 136.

454. *Id.*

455. Interview with Bill Meckel III, *supra* note 119.

best to respond. Inspectors are much better situated than reps to develop a relationship of trust with sources.

Although they have more contact with sources than reps do, the inspectors still do not visit very often. A flexible style, combined with a low level of interaction, could lead to noncompliance by sources who perceive little chance of being caught and punished. In this situation, for the inspectors to maintain flexibility, the reps may need to send a strong message to sources that EBMUD is serious and does apprehend violators. Absent this strong backup, inspectors could be ignored. It may also be that this combination allows EBMUD as an institution to lower the threshold level of interaction necessary for an effective compliance strategy.

E. Conclusion

The fact that EBMUD operates a plant that itself is subject to regulation tends to encourage a serious approach to regulation. At the same time, the fact that it is presently in compliance with its requirements allows some flexibility. Despite pressures to be legalistic from elements within the organizational, legal, and task environments, the following three aspects of the task environment are the most important determinative factors in shaping EBMUD's style: recognition of variation amongst sources; perception of a large degree of compliance; and the maintenance of a certain threshold level of contact with sources. These factors explain the ethos of flexibility that pervades the enforcement program in general, even in the face of restrictive legal guidelines and an often limiting division of roles. The greater flexibility of the inspectors in the small source program, as compared to large source regulation, seems to be due mainly to three other aspects of the task environment: the reduced capacity of sources to comply; the insignificance of individual failure to comply; and the simpler nature of their processes. The reps, on the other hand, who have much less effective contact with the small sources, have adopted a flexible deterrent strategy.

As these features of the environment will be more or less common to many efforts to regulate small sources, one can make a general prediction that, all other things being equal, small source regulation will be more flexible than large source regulation. This statement is subject to the important qualification that there seems to be a point at which contact between source and regulator becomes too infrequent for regulators to develop and maintain a cooperative relationship with sources. When that point is passed, the regulator who wishes to do more than adopt a purely legalistic or lax style will only be left with the deterrence option, and will engage in a greater show of regulatory strength when he or she finds a "bad apple." Whether this "contact threshold" is reached or not can clearly be affected by the institutional structure of the regulatory

agency, in conjunction with the task environment. In EBMUD's case, it seems that reps have gone beyond this threshold, while the inspectors have not.

EBMUD's current institutional structure has certain advantages with regard to the effect of contact on regulatory style. By splitting the regulatory roles, EBMUD has created a situation in which two regulators can reinforce each others' work. One (the inspector) is positioned to be more flexible and cajoling, the other (the rep) is more removed and represents the force of regulatory authority. Because fewer reps are needed to present a tough image, EBMUD's arrangement may be efficient in terms of regulatory manpower.

For this division of roles to be as effective as possible, however, the regulators' powers and goals need to be appropriate. At EBMUD, reps are unwilling to be seen as the "bad guys"; they see their role as cooperative and themselves as the prime exercisers of discretion.[456] On the other hand, inspectors' ability to play the role of "good guys" and to bear the burden of the cooperative strategy is limited by their reduced discretion in the organizational scheme. Although there has been a de facto shift in discretion from rep to inspector, there has not yet been a corresponding shift in legal powers or an increase in training or skills to deal with the new demands.

More formal changes may need to be introduced. If inspectors are to play a prominent part in gaining the cooperation of small sources, their supposedly neutral reporting role will come under greater strain. Potential changes range from simply recognizing official discretion on the part of inspectors to reuniting the regulatory roles for dealing with small sources, where administrative and legal burdens on the agency are not so complex.[457] Such changes might allow a further adaptation of style to the new task.

CONCLUSION

In this article I have examined the development of EBMUD's regulatory program to control wastewater discharges from small sources. I have attempted to answer four questions. First, what drives an agency to take on the problem of small source regulation? Second, how should an agency approach and impose regulations on small sources? Third, what style will regulators adopt in attempting to bring small sources into compliance? And fourth, what factors influence and shape that style?

456. *See* Interview with N. Jo Chapman I, *supra* note 83.

457. However, the TRC Guidelines (a factor from the legal environment) may, unless revised, eventually hamper all efforts to be flexible, no matter how the institutional structure is arranged. *See supra* note 403.

In relation to the first question, it appears that the fact that EBMUD operates a plant that is itself subject to water, air, and waste standards played an important part in pushing EBMUD to move to permit the smaller sources. An externally imposed requirement that EBMUD develop plans to minimize waste was a contributing factor. At the same time, the diffuse nature of these pressures left EBMUD the flexibility to undertake the venture as it saw fit.

Regarding the second issue, EBMUD's experience provides several lessons about casting the regulatory net over small sources. It is important to notify sources well in advance of approaching regulation and to include them actively and completely in the development of those regulations. The standards imposed should not only be uniform and applied according to clearly identifiable criteria, but they should be as easy as possible for the sources to comply with. To this end, the agency should consider taking steps to assist in developing technology and markets in the necessary goods and services. Agencies and legislatures should also consider carefully where the cost of regulating is to fall, not only to encourage industry cooperation, but also to ensure that regulation is as cost effective as possible.

Regarding enforcement style, EBMUD's inspectors are more cooperative than the existing literature would suggest, while the reps adopt a more expected deterrent strategy. The size and limited resources of small sources were dominant factors in leading EBMUD to adopt a style that is, on the whole, more flexible than the style it applies to large sources. One crucial element in determining the regulators' style seems to be whether the "contact threshold" is passed: if regulators are able to maintain close enough contact with sources, they will adopt a cooperative approach, all other things being equal. If they lose that contact, as appears to be the case with EBMUD's reps, they will adopt a more deterrence-oriented approach and send out strong signals of possible punishment to sources. EBMUD's division of roles may serve a useful function in lowering the contact threshold, enabling the inspectors to generate cooperation with the sources. Some institutional reform may, however, be necessary to allow these roles to adopt to the changed regulatory environment.