Strategies for Improving Industrial Environmental Compliance

A Draft Report Prepared by

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Introduction

Historically at the United States Environmental Protection Agency (U.S.-EPA), corporate compliance with environmental law has been conceptualized in terms of economic deterrence. In adopting the deterrence model of compliance, an assumption is made that corporations behave as economic 'rational actors' (Becker, 1968). That is, the decisions which corporations make regarding environmental laws are calculated so that the most economically beneficial actions are taken.

Specifically, this means that the corporation multiplies the probability of being detected out of compliance by the penalty for being out of compliance and then compares this product to the cost of compliance. If this "expected value" of the cost of non-compliance is less than the cost of compliance, it is assumed that naturally an entity which depends upon economics for survival will choose to not comply with the environmental law in question. In accord with the 'rational actor' assumption, the purpose of enforcement efforts at EPA has primarily been to insure that the economic costs associated with noncompliance are greater than the economic costs of compliance. In this scenario, enforcement officials act solely as police officers who identify violations and apply appropriately prohibitive sanctions.

However, a major problem exists in adopting deterrence theory as a comprehensive model for corporate environmental behavior. The problem is simply that the 'rational actor' assumption does not seem very plausible. Corporations are composed of various individuals, many of which influence decision-making. In fact, employees, competitors, and broad societal norms, all exert pressure upon decision-making (The Skylonda Group, 1985). The result is usually a consensus among competing views, rather than a precisely calculated solution. Indeed, it has been estimated that top executives of major companies spend as much as <u>half</u> their time dealing with external relations, particularly those with the government (Greanias & Windsor, 1982). Whether any given decision which is reached is the most economically beneficial or rational is usually open to debate.

However, even with this consideration aside and the 'rational actor' assumption taken as valid, there are still serious problems in adopting the deterrence model (as embodied in the so-called "command-and-control" strategy) as a sole means of achieving compliance. This is because that even if corporate environmental decision-making were conducted so that the most economically beneficial actions were taken, two of the three variables to be considered in the deterrence equation are uncertain. Even though the cost of achieving and remaining in compliance may be fairly certain (and even this is open to debate), the risk of detection and the cost associated with detection are quite uncertain. Because of this uncertainty, it is very difficult for companies to behave in any consistent and

predictable manner, even given the assumption of rationality. In addition, there is considerable variance across corporations regarding the degree of risk which is tolerated in decision-making. As a result, the deterrence (command-and-control) strategy taken alone is necessarily inefficient in promoting compliance.

At this point one may ask: "If companies cannot be expected to behave as 'rational actors', then how might they be expected to act?" Kagan and Scholz (1984) have constructed a conceptual framework of different ways in which corporate behavior is often perceived. One conception of corporate behavior is that of the corporation as a political citizen. In this case, the corporation is viewed in terms of its social context, and rather than being ruled purely by an economic equation, is also influenced by ideological beliefs and societal norms. In other words, decisions are made based upon beliefs of right and wrong and what their societal and political effects might be; that is, how they may come to be judged by others. Rather than focusing on deterrence of undesirable behavior, emphasis on good practice and reinforcement through peer pressure and recognition would be the compliance strategy of choice here. Through negotiation and social networking, corporate and regulatory officials could reach consensus on environmental management approaches which were satisfactory to each. Therefore, rather than acting primarily as police agents, regulators would serve as negotiators and networkers.

In another model the corporation may be viewed as being organizationally incompetent: that is, the right hand of the corporation does not know what the left is doing. In this scenario, environmental regulations are not adhered to because of folly, rather than principled disobedience (as a political citizen) or an economic equation (as an economically rational actor). Even though top corporation management may wish to comply with environmental laws, the fragmented, disorganized nature of the corporation may prevent it. There may be norms of operation or distinct factions of corporate members within the organization which prevent compliance. It may also be a communication problem which works against compliance. In any case, regulators would serve as consultants, educators and providers of guidance. To minimize organizational mishaps, a focus on personal liability for environmental damages -- as well as emphasis on environmental audits which force senior management to acquire knowledge of potential violations -- are especially important in this scenario. Such roles for regulator and regulatee would greatly improve the likelihood of compliance by helping the corporation overcome the organizational problems which prevent compliance.

Rather than any one of these conceptions being <u>the</u> correct one, it is more likely that all exist within corporations at

certain times, and that different corporations embody each to different extents. Therefore, it is necessary to keep all of these views in mind when trying to understand and/or control corporate behavior. In the words of Kagan and Scholz (1984): "One implication of the diverse sources of noncompliance is that indiscriminate reliance on any single theory of noncompliance is likely to be wrong, and when translated into an enforcement strategy, it is likely to be counterproductive" (p. 85).

As a result of the deterrence-based Major Source Enforcement Effort of 1977-1981, a majority of major pollution sources are currently in compliance or are following plans to achieve compliance (Wasserman, 1985). However, this is only the first stage in an overall effort to promote compliance with environmental requirements throughout the economy. Besides these large and easily visible sources, there are many medium to small-sized companies which because of their great numbers can never all be monitored. These sources have become especially important as the need to control toxics has grown (U.S.-EPA, 1984). The risk for any one of these companies being detected out of compliance is so extremely low that deterrence is an exceptionally poor strategy. In keeping with the deterrence framework, it would not be possible to levy fines large enough to balance out the low probability of detection. Indeed, many of these potential violators are not even known by the regulatory community to exist.

Bringing these sources into compliance is the most difficult task at hand. Together, they represent a very real and significant threat to human health and the natural environment. Since these companies cannot be reached effectively through command-and-control (deterrence), additional means must be used to influence them. The strategy described below will not only be effective in bringing medium to small-sized sources into compliance, but is also the most effective way of dealing with larger sources as well.

An Integrated Compliance Strategy

An integrated compliance strategy is one which incorporates knowledge and principles from various fields (such as economics, sociology, criminology, psychology, and law) to increase the extent to which individuals and groups of individuals comply with environmental laws. It is not bound by any particular viewpoint, but takes advantage of the strengths of all existing viewpoints. Wasserman (1985) expressed this sentiment in the following way: "... the key to a successful and efficient compliance promotion and enforcement program is matching enforcement approaches to the full range of motivating factors that may be at work for individuals and all levels within regulated entities" (p. IV-4).

In adopting an integrated compliance strategy, it becomes

evident that at least four "micro-strategies" must be taken in order to promote compliance beyond the current level which has been achieved: 1.) increase the perceived legitimacy of environmental laws; 2.) foster mutual respect between regulators and regulatees; 3.) demonstrate that environmental pollution prevention is good for business; and 4.) revise deterrence (command-and-control) strategy as part of an overall compliance strategy.

1. Increasing The Perceived Legitimacy of Environmental Laws

Deterrence (command-and-control) strategy is a necessary part of any enforcement program. Deterrence measures demonstrate the resolve of the agency. However, they cannot be the sole means by which compliance is sought. Just as traffic laws will only be followed to the extent that they are viewed as legitimate, so is the same with environmental laws. Although it is true that motorists will obey all traffic laws in the presence of a police officer, police officers cannot even come close to monitoring all motorists. The threat of sanction is necessary to keep those few individuals in compliance who would otherwise break the law. However, for the vast majority of individuals in society, laws are followed because they are seen as legitimate and necessary. Therefore, one of the goals of regulatory agencies must be to increase the perceived legitimacy of environmental laws so that they are followed in "spirit" as well as by the "letter". As Miller (1985) put it: "Bureaucratic and rule-minded enforcement can lead to a minimalist attitude on the part of both law enforcement officials and regulatees, leaving them unresponsive to more serious, but not technically illegal situations" (p. 24). A survey of 100 top corporate officers of major corporations demonstrated the need to increase the perceived legitimacy of environmental laws (Glauthier & Fox, 1983). It was found here that the issue about which more executives were 'very concerned' was the reasonableness or scientific basis of regulations.

Justifying environmental laws was often quite difficult in the past due to the abstract nature of the consequences which the laws were intended to avoid. However, today these abstract consequences have become very concrete. As consensus has grown in the scientific community regarding the reality of global warming and its potentially grave consequences, as holes in the Earth's ozone layer have become more severe, and as land and water have become contaminated, it has become increasingly apparent that human activity is having serious negative effects upon the global environment. Whereas in the not so distant past concern for the environment was viewed by most people to be a luxury, today it is considered by many to be necessary for long-term, sustainable economic development.

Despite widely-increasing consensus for increased investment in environmental protection, individual decisions and trade-offs will continue to be controversial. The rationality of the decision-making process and the degree and quality of participation and involvement by concerned interest groups in that process will effect the degree to which they challenge such decisions. Increased use of regulatory negotiation and alternative dispute resolution processes will help in this regard. More broadly, efforts eliminate current inconsistencies and to minimize future arbitrary or conflicting requirements will increase industry's willingness to "buy into" environmental programs as a whole.

2. Fostering Mutual Respect Between Regulator and Regulatee

A more constructive relationship between regulator and regulatee must be developed as the norm for interaction, reserving confrontational tactics for serious non-compliance issues. An essential element in doing this are enforcement approaches similar to Scholz's (1984) "Tit-for-Tat" framework. In using Tit-for-Tat, good environmental behavior by companies would be rewarded with cooperative enforcement and bad environmental behavior would be sanctioned with antagonistic enforcement. Cooperative enforcement is characterized by a relatively low level of regulatory scrutiny and greater regulatory discretion and use of negotiation. In other words, companies with good environmental records and even companies which have shown evidence of "good faith" efforts to comply, would be given regulator trust and respect. Accordingly, even where violations are detected, regulator trustworthiness and reasonableness would be demonstrated by a full consideration of the purpose of the law in relation to the violation as well as any extenuating circumstances (impediments) which may have made compliance exceptionally difficult. Environmental laws would be enforced in "spirit" rather than just by the "letter". Hall (1988) noted one of the Agency's current efforts to achieve this level of enforcement:

> In 1986, the Environmental Protection Agency issued a policy statement on the issue of environmental auditing. In this policy it was implied but not specifically stated that the Agency would provide a more reasonable enforcement attitude toward industrial operations which had installed a vigorous system of environmental auditing. Although this in no way condones or encourages the breaking of any laws or regulations, the policy is merely establishing an attitude of cooperation rather than one of police activity. (p. 1)

EPA's Uniform Civil Penalty Policy also leans in this direction in that it allows the regulator discretion in deciding what level of sanction to impose. Factors such as economic benefit derived

from noncompliance and degree of past cooperation are considered when penalty amounts are assessed. By showing the regulatee that cooperation is sincerely desired and that the regulator is reasonable, trust between regulator and regulatee can begin to be developed. In the case of bad environmental behavior, companies would receive harsh sanctioning and greater regulatory scrutiny. However, in order to begin the development of regulator/regulatee cooperation and trust, "good faith" efforts to comply on the part of even previously recalcitrant firms must be rewarded so that further efforts at achieving compliance are encouraged. Otherwise, firms which have been labeled as "bad actors" have little incentive to come into compliance.

In order to further develop cooperation and trust between regulator and regulatee, it would be helpful to as much as possible make the criteria of violation "few, clear, and simple" (Environmental Law Institute, 1989). If this were the case, little dispute would occur over whether a violation had occurred or not. If violations were blatantly obvious, regulatees would have no basis for feeling "cheated" by regulatory agencies. Therefore such clear cut criteria would help to preserve the perception of regulator legitimacy. In addition to this, such criteria would give regulators the "clout" necessary to negotiate from a position of strength (such as with regard to probation--see Stone, 1977). In an EPA report entitled "Study Of Literature Concerning The Roles Of Penalties In Regulatory Enforcement" (1985), the usefulness of regulatory negotiation was discussed. It was stated thus:

> The use of rehabilitative measures in enforcement opens up many new possibilities for agencies to promote compliance. However, it must be noted that such enforcement actions must be highly individualized and tailored to the individual violator, and as such, they could be resource intensive. In addition, these tailored sanction actions may go against the idea of 'fair and equitable treatment of the regulated community'. (p. 17)

With regard to the former criticism, although such an approach may be resource intensive, the gains to be realized in compliance as a result of increased cooperation and trust far outweigh such expenditures. In addition, as will be discussed shortly, the confrontational relationship which currently exists between regulator and regulatee is also very resource intensive in addition to being mutually detrimental. With regard to the latter criticism, although any time that discretion exists, the possibility of injustice and corruption also exists, the current approach of penalizing violators without much regard for specific circumstances is also unjust. To be sure, stringent control and documentation of negotiation will be necessary, but this will be to the benefit of both regulator and regulatee. Such control will both protect regulators from forces which promote favoritism

laws must be shifted off of the regulator and on to the regulatee. Indeed, in EPA's "Strategy Framework For Compliance Programs" (1984) it is stated that voluntary compliance is essential to enforcement (p. 11). In order to achieve this, the justification for compliance must become the aversion of negative environmental consequences rather than the aversion of regulatory sanctions. This justification would be created if companies were convinced that negative environmental impacts are bad for business. This would eliminate the current passive environmental stance of large sources as well as the diffusion of responsibility which characterizes medium and small sources. This approach is currently being looked at within EPA through the use of demonstration projects in which it will be attempted to show that environmental pollution preventions can be economically efficient as well as protective of the environment.

One key to this approach is to integrate environmental management directly into core business operations. Another key is in a comprehensive definition of operational efficiency. Such a definition incorporates costs of noncompliance which are usually not considered but nevertheless are significant components of operational efficiency. Actually, the economic gains to be realized from environmental management are short-run as well as long-run in nature (Wasserman, 1985; ICF, 1989). Some short-run gains are reduced insurance premiums and reduced raw material costs; potential long-run gains are avoidance of future liability and the fostering of a positive public image. The costs usually associated with noncompliance are thought to stem from enforcement actions themselves. However, as any convicted drunken driver knows, the fine is just a small proportion of the costs to be paid: increased insurance rates and social stigma exact very real costs as well. Through such an expanded definition of operational efficiency, it may be possible to show a direct positive relationship between environmental management measures and economic efficiency. If this is accomplished, companies will pursue environmental management as a core business interest. Indeed, books and articles have already begun to be written on the economic virtues of pollution prevention (Campbell & Glenn, 1982; Huisingh, Martin, Hilger, & Seldman, 1985; Plaut, 1984; ICF, 1989). At this point, however, this proposition is too novel for many companies to take. This is why it is important that EPA take the lead in developing projects which would demonstrate the economic advantages of effective environmental management.

As a related matter, consider what Stone (1975) reported regarding price-fixing conspiracies in the electrical equipment industry. He found that a sentiment existed among employees that price-fixing had been an invention of the sales force in order to avoid having to work harder for sales. He also found that design engineers resented the fact that the products which they took pride in designing were not given a fair shake on the

free market. An outside advisory panel which was set up to investigate price-fixing aimed to demonstrate "that competition, properly pursued, can produce far more consistent profits than ... conspiracy" (p. 12). In-house programs, management courses, workshops, and conferences were all established to advocate the positive approach of competitive initiative. As Stone reported:

> [The presentation] was not that the company had to 'submit' to a stronger, outside force--that is, the government. Rather, the price-fixing was depicted as itself a foreign element, inimical to the more fundamental corporate ideal of increasing one's share of the market through better salesmanship, superior design, and the like--the norm of competition. (p. 12)

Once it is demonstrated that good environmental management is also good business management, regulation will cease to be viewed as a "foreign element". Rather, environmental irresponsibility and degradation will become as price-fixing, "inimical to the more fundamental corporate ideal of competition".

Chances are that if a company has a poor environmental record, its operation is not running very efficiently in the first place. Just as a car which is not tuned well will emit more pollutants and burn more fuel per mile than a well tuned one, corporations which are the heaviest polluters are not making the best use of their raw materials. In addition, a company with effective process controls normally will increase the productive throughput of its operating equipment relative to competitors. Such costs of "environmental inefficiency" must be figured into the final efficiency equation. Apparently intangible costs such as adverse publicity must also be quantified and considered. Although a company may incur initial costs when converting to more environmentally efficient practices, such costs should be recovered over a relatively short course of time. An analogy is that although one may purchase an older car at a lower price than a newer one would cost, over time the higher fuel efficiency of the newer car will make it the better buy.

A potential problem with these economic gains is that they may not be fully realized within the 18-24 month average tenure of company vice-presidents. Since these executives depend upon short-term gains in order to demonstrate their proficiency and thus move into better positions, measures may not be taken which will not show very immediate results. Because of this, it is crucial to get top decisionmakers (i.e., CEOs) on board early so that they will become committed to environmental management and ensure program survival to a point where environmental and economic benefits can be realized.

As it stands now, most companies which are adopting

environmental management practices are doing so in order to avoid penalization by regulatory agencies. Companies are hiring environmental consultants to help them meet regulatory requirements. In turn, these consultants are providing technology which is quite safe, and also quite old, in order to eliminate any chance of their clients (companies) being out of compliance if they are inspected. Such measures are designed for the sole purpose of achieving compliance and in many cases may not be contributing to operating efficiency.

When corporations have become convinced that environmental pollution prevention is "good business", pollution prevention will become adopted as standard operating procedure and will cease to be held as suspect. Commitment to environmental management programs will become commonplace in the business community. Through this process, more than just compliance rates will be altered. The 'culture' of corporations and entire industries will be changed. As it is realized (through market trends and social networks) that environmental management practices can actually increase operating efficiency, and as more companies adopt such practices, environmental management will become necessary in order to compete in the marketplace. Rather than being forced to comply with environmental laws, environmental stewardship will have become a part of corporate missions. This is the ultimate goal of all regulatory efforts. Changing the culture of large industries will also bring much social pressure to bear upon smaller ones. This is especially important at that level because the economic incentive of environmental management may not be quite as great for smaller operations. Through trade associations, regulatory networks, and general societal expectations, these smaller sources will be encouraged to achieve and remain in compliance. Also, as mentioned above, increased compliance support and cooperation from regulatory agencies will make it easier and more advantageous for these sources to observe environmental regulations.

The aforementioned cultural transformation will first occur within select "forward-looking" corporations, and then eventually in other less progressive firms. Indeed, today certain companies are becoming aggressively involved in environmental management in order to get in early on an idea whose time they see has come. To these corporations, such involvement is considered a good business investment. With increasing environmental problems and resulting governmental regulation down the road, corporations which are attempting to become "environmentally efficient" now are avoiding larger costs later when fewer choices for achieving compliance are available. These corporations will also be one step ahead of their competitors in gaining the benefits of more efficient operations.

4. Revising Deterrence (Command-And-Control) As Part Of An Overall Compliance Strategy

As discussed at the beginning of this paper, although deterrence-based strategies should not form the sole basis of enforcement, they are an essential part of an overall compliance strategy. Deterrence measures demonstrate the will of regulatory agencies. To the extent that such approaches are employed, there are ways to insure that they are used as effectively as possible. A recent report prepared for EPA by the Environmental Law Institute (ELI, 1989) entitled: "Cost-Effective Enforcement: A Framework For The Evaluation Of The Enforcement Authorities Of The EPA" addresses this very issue. The authors of this report concluded that for the programs which they examined (Water and Hazardous Waste), "...the Congress generally has provided EPA with less than ideal enforcement powers... Moreover, EPA has often adopted regulations that appear to diminish the deterrent power of tools and that make tools harder to implement" (p. 141). The authors of the ELI report outlined nine measures which they believed would make the enforcement authorities (permits, civil penalties, contractor listing, etc.) at EPA more cost-effective. Most notably, in cases of dispute it was recommended that EPA pursue an enforcement strategy which places the 'burden--of-proof' upon the alleged violator (IRS-style). As it stands now, when a firm is cited for a violation it may pursue endless civil litigation which greatly delays the length of time until the environmental harm is stopped and often tends to weaken the blow of the ultimate penalty. If the burden-of-proof were placed upon the violator, it would be necessary for the company to circumscribe suspect operations until the matter was cleared up. This would serve the dual purpose of immediately stopping the environmental harm as well as providing a great disincentive to litigation. If a company must cease operation during the litigation process, it will assume a great economic burden each day that litigation drags on. Although shifting the burden-of-proof upon alleged violators may be overly heavy-handed with first or second-time violations, it may be a measure to consider for dealing with repeated violators.

Conclusion

Because of its severely limited view of corporate behavior, EPA's command-and-control (deterrence) strategy for compliance is similarly limited in effect. Command-and-control fails to take into account all of the factors which influence corporate environmental behavior. An integrated compliance strategy has been described here which would take all motivating forces into account. This strategy would complement, rather than displace the current strategy. An integrated compliance strategy would be especially beneficial in dealing with medium to small sources of pollution, which cannot be reached directly through command-and-control.

APPENDIX 1

Tools for Improving Industrial Environmental Compliance

1. alternative dispute resolution and other negotiation techniques
2. good management practices and pollution prevention
3. self-auditing
4. performance-based incentives (let the market work out the means)
5. education/training/skill development
6. technology transfer
7. violator 'burden-of-proof'

and corruption as well as protect regulatees from being double-crossed in agreements.

Negotiation techniques and other alternatives to civil litigation are central to Tit-for-Tat and other such enforcement frameworks. Litigation is very resource-intensive and usually not cost-effective for either side of a dispute (Gray, 1985). Gray cited the National Coal Policy Project (NCPP) as an example of a non-adversarial solution to a very difficult problem. After realizing that they were both losing in the courts, industrialists and environmentalists developed the NCPP as a year-long forum in which a consensus was reached on coal policy for the United States. Examples of other non-adversarial alternatives to civil litigation can be found in Blundell (1982), Peterson (1983), and Quadrangle Notes (1982). Langbein and Kerwin (1982) have characterized negotiation as "... the centerpiece of implementation, for it provides the vehicle by which the [regulatory] agency can simultaneously satisfy the preferences of relevant Congressional subcommittees, clientele groups, and regulated firms" (p. 30).

Besides a Tit-for-Tat style enforcement framework, a second essential element necessary to promote regulator/regulatee cooperation is ample compliance support from regulatory agencies. Regulators must be willing to provide companies with information, training, and education which will enable them to come into compliance. This includes providing technical information ("technology transfer") as well as justification of laws so that regulatory reasonableness is demonstrated. Agencies must also provide companies with options for achieving compliance so that the most economically efficient means may be chosen (this is discussed more fully below). Besides allowing for economic efficiency, providing such options will foster commitment to and "ownership" of environmental management. In short, environmental regulatory agencies must become more service-oriented and less authoritarian. Both the U.S. Internal Revenue Service and the U.S. Postal Service have made this realization with increased efficiency and effectiveness as the result. This is especially important for smaller companies which lack in-house environmental management skills and are generally not very proficient with environmental regulations. With such support provided, the regulatee can have no legitimate excuse for not at least making a reasonable attempt at achieving compliance. Underlying this compliance support must be well-established communication networks through which regulator and regulatee can establish and maintain mutually supportive relationships.

3. Demonstrating That Environmental Pollution Prevention Is Good For Business

Ultimately, responsibility for compliance with environmental

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