Legal Incentives for Minimizing Waste

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Waste minimization, or pollution prevention, has become an integral component of federal and state environmental regulation. Minimizing waste offers many economic and public relations benefits. In addition, waste minimization efforts can also dramatically reduce potential criminal requirements. This paper addresses the legal incentives for minimizing waste under current and proposed environmental laws and regulations.

INTRODUCTION

Waste minimization, or pollution prevention, has become a popular phrase in today's age of increased environmental regulation and potential liability. The U.S. Environmental Protection Agency (EPA) estimates that $120 billion is spent annually "to treat or contain wastes once they are generated" [1]. Further, the agency states that hazardous waste treatment and disposal costs have risen as much as 300 percent over the past decade due to the ban on land disposal of hazardous waste, minimum technology requirements for hazardous waste units, and limited treatment and disposal capacity [2].

Through waste minimization and pollution prevention, EPA anticipates that industrial facilities can save money on waste management, reduce the use of raw materials, and minimize potential environmental liability [2]. Despite these incentives to minimize waste, corporations are often reluctant to commence waste minimization programs prior to being forced to do so by federal or state government, and incurring substantial criminal and civil penalties. Potential toxic tort and Superfund liabilities can also be substantial.

Legal incentives for waste minimization exist under all major environmental laws, including the Resource Conservation and Recovery Act (RCRA), the Clean Air Act, the Clean Water Act, and Superfund. Moreover, under each of these statutes, there is always the threat of federal, state, and private citizen enforcement actions, as well as potential criminal liability. Penalties under these laws can amount to as much as $25,000 per day for each violation. Needless to say, such penalties can easily result in the assessment of multimillion dollar fines against a company. Furthermore, mandatory jail time has become a stark (and increasingly common) reality for environmental crimes.

As a result of increased environmental liability, companies must reevaluate past waste disposal practices and devise innovative solutions to recover and recycle materials that were previously released or disposed to air, land, or water.

Discussion

Waste Minimization: An Historical Perspective

Waste minimization and pollution prevention have recently captured the attention of EPA and the public. As President Bush announced in October, 1990:

"Environmental programs that focus on the end of the pipe or the top of the stack, on cleaning up after the damage is done, are no longer adequate. We need new policies, technologies, and processes that prevent or minimize pollution—that stop it from being created in the first place."

As defined by EPA, waste minimization is:

The reduction, to the extent feasible, of hazardous waste that is generated prior to treatment storage or disposal of the waste stored or disposed of. It is defined as any source reduction or recycling activity that results in either (1) reduction of total volume or of hazardous waste; (2) reduction of toxicity of hazardous waste; or (3) both, as long as that reduction is consistent with the general goal of minimizing present and future threats to human health and the environment [5].

With President Bush's recent "mandate" in place, EPA is now attempting to move to the forefront of the waste minimization and pollution prevention arena. However, waste minimization goals have been around for a number of years.

Waste minimization was first introduced as a national policy in the 1984 Hazardous and Solid Waste Amendments (HSWA) to RCRA. Despite this professed waste minimization policy, however, only a few regulations force industry to minimize waste.

RCRA provides a prime example of the absence of mandatory waste minimization provisions. HSWA endorses a waste
(LAER) (to comply with nonattainment new source review) prior to the promulgation of a standard, then that source's compliance date is extended for five years from the date on which BACT or LAER was installed or the reductions achieved. This exemption acknowledges that BACT and LAER result in substantial emission reductions and that immediately requiring any additional reductions would be inequitable. However, like the 6-year extension of Section 112 (f) (5), this exemption may have limited effect since those pollutants regulated by BACT and LAER will only slightly overlap those regulated by the Air Toxics provision.

In addition to Title III's emission reduction incentives, Title IV incorporates a system of marketable allowances for sulfur dioxide (SO₂) and nitrogen oxide (NOₓ) emissions. This system allows sources to market their "extra" emissions reductions (that is, reductions beyond those otherwise required) to other sources seeking to emit more than is permitted. Clean Air Act § 403 (b).

Finally, Section 404 (d) allows the owner or operator of an affected unit under Title IV to petition EPA for a two-year extension of Title IV's 1995 SO₂ emissions reduction deadline. To obtain the two-year extension, the unit must either use a qualifying technology or transfer its emissions reduction obligation to another unit using a qualifying technology. A qualifying technology is a technological system of continuous emissions reduction that achieves a 90 percent reduction in SO₂ emissions. The NOₓ emission limitation for these units will also be extended for two years. Clean Air Act § 407 (a).

SARA § 313. EPA considers the Toxic Release Inventory (TRI) established under Section 313 of the Emergency Planning and Community Right-to-Know Act to be the most powerful tool available to EPA at the present time for tracking pollution prevention efforts from industrial sources. The public accountability fostered by the TRI has also created a strong incentive to minimize waste [28].

Section 313 requires chemical manufacturers to report the amount of each of more than 300 toxic chemicals listed in the Act that are released to the air, land, or water. The reporting requirements, which will expand to cover more than 28,000 facilities nationwide for 1989 data, apply to manufacturing plants that employ at least 10 people and use at least 10,000 pounds or manufacture at least 25,000 pounds of any TRI chemical.

Several states are using the TRI as the basis for a number of legislative efforts. Louisiana has a law mandating 50 percent reduction in toxic air emissions by 1994. Massachusetts and Oregon have enacted similar laws. New Jersey now requires firms to submit with their TRI data additional information about pollution prevention practices. Other states have instituted a fee system based on TRI emissions to provide an economic incentive to reduce emissions.

EPA is also using Section 313 violations to force waste minimization and pollution prevention efforts. For example, EPA Region V announced in December 1990 that two manufacturers agreed to install pollution controls in exchange for reduced fines under Section 313. One company agreed to spend $85,000 to incorporate pesticides automatically into the company's fertilizer product in lieu of a manually operated system. The other company agreed to spend over $45,000 to convert from solvent-based to water-based coatings in its plastics manufacturing operations. For both cases, EPA reduced the proposed penalties from a combined $76,000 to just over $21,000 [29].

Pollution Prevention Act of 1990. The Pollution Prevention Act of 1990 requires EPA to develop and implement a strategy to promote pollution prevention. The Act includes provisions directing EPA to set measurable goals, to consider the impact of regulation on source reduction, and to evaluate regulatory and non-regulatory barriers. In addition, the Act amends Section 313 of SARA to require industries to quantify the effect of source reduction, as well as recycling and treatment, in reducing environmental releases of toxic chemicals.

To implement the mandates of the Pollution Prevention Act, EPA is relying on voluntary efforts, which will offer industry the advantage of maximum flexibility, and sufficient time to make economically sound changes in production or use of raw materials [30].

**EPA's Pollution Prevention Strategy.** EPA's recently issued Pollution Prevention Strategy anticipates that "pollution prevention can be the most effective way to reduce risks by reducing or eliminating pollution at its source" [31]. In EPA's assessment, waste minimization is often the most cost-effective option because it reduces raw material losses, the need for extensive "end of pipe" pollution control technologies, and long-term liability. Thus, EPA concludes that pollution prevention "offers the unique advantage of harmonizing environmental protection with economic efficiency" [32]. Ibid. EPA's Pollution Prevention Strategy identifies two primary goals: (1) investigate and, where possible, eliminate barriers to cost-effective investments in prevention in existing and new regulatory programs; and (2) encourage voluntary actions by industry that reduce the need for EPA to take action.

To institute this program, EPA has devised an Industrial Toxics Project. Specifically, on February 7, 1991, EPA launched a new initiative to prevent toxic chemical pollution [33]. EPA's new initiative requests over 600 designated companies to reduce pollution voluntarily to air, water, and land. The Project targets seventeen chemicals from the manufacturing sector and develops focused prevention strategies for them. EPA's goal is to reduce aggregate environmental releases of these targeted chemicals, as measured by the Toxics Release Inventory in 1988, by 33 percent by the end of 1992 and at least 50 percent by the end of 1995. Although participation in the Industrial Toxics Project is voluntary, EPA will work with companies to ensure that any initiative taken to reduce emissions ahead of statutory schedule receives appropriate credit toward complying with any subsequent regulatory requirements. Furthermore, EPA Administrator Jackson has expressed his commitment to develop the incentives necessary to ensure participation in this Project and to assure companies that voluntary compliance will not result in the forfeiture of various allowances under the new Clean Air Act [34].

**Future Regulatory and Liability Incentives**

In addition to requesting voluntary compliance with waste minimization efforts, EPA is expected to continue its increased civil and criminal enforcement efforts. EPA's "Great Lake Initiative" is representative of the types of environmental law suits to come. Under this Initiative, the Justice Department filed three suits in federal district court against three companies alleging violations of the Clean Air Act, the Clean Water Act, the Safe Drinking Water Act, and RCRA [35]. These types of suits test the agency's new multi-media, geographic-based approach to environmental law violations.

Also, on February 22, 1991, EPA and the Justice Department filed eight lawsuits and 20 administrative actions to enforce RCRA's restrictions on land disposal of hazardous waste [36]. One of the federal court actions involved a $1.85 million settlement with E. I. DuPont de Nemours Co. [37]. DuPont was charged with unlawful disposal of corrosive acids and solvent wastes, as well as waste analysis and recordkeeping violations. To settle the lawsuit, DuPont agreed to audit company facilities nationwide to ensure compliance with RCRA's land ban restrictions.

While civil and criminal liability will continue to increase EPA has also requested public comments on ways to revise EPA's regulations to better encourage waste minimization and pollution prevention. In this regard, on October 5, 1990, EPA issued a request for comments on the desirability and feasibility of waste minimization incentives [38]. EPA requested comments on a number of specific issues, which, if implemented by the agency, could dramatically change the nature of current
waste minimization incentives. The following are a few of the specific questions raised by EPA:

Should EPA consider changing the definition of "solid waste" to promote additional source reduction and recycling? Here, EPA is attempting to respond to criticism that EPA's current permitting process is cumbersome, time-consuming, and carries associated regulatory costs and liabilities.

Should EPA consider marketable waste generation trading rights or other long-term economic incentives to reduce waste generation? [38] Ibid. In this connection, EPA espouses that it could issue rights to generate a limited quantity or toxicity of hazardous waste. EPA sets forth two variations of this alternative. Under the first variation, a facility, in the first year, would receive transferrable rights for the quantity of waste generated during a base period. The next year the facility would receive rights to generate a smaller percentage (e.g., 5% less) and so on over time. If a facility implemented waste minimization efforts which reduced its need for these rights, it could sell them to other firms. Under the second alternative, EPA would allocate waste generation rights without respect to a facility's individual current waste generation rates. To allocate those rights, EPA would hold auctions with companies which have bought the rights being able to trade them to others if they did not need them [40]. Ibid.

Should EPA consider waste characterization assessment and listing incentives? One potential long-term option focuses on expanding the data collection and analysis portion of the listing process to require collection and dissemination of source reduction and recycling information for processes that generate the waste [41]. Ibid. Another approach would be to allow generators to enter into an agreement with EPA that provides time for the generator to identify, design, and install source reduction and recycling technologies that will either significantly reduce or eliminate hazardous waste generated [42]. Ibid.

Should EPA consider waste minimization incentives in the RCRA Treatment, Storage, and Disposal (TSD) permit process? EPA suggests that the agency could include waste minimization commitments as a condition to permit approval. EPA is also analyzing whether to require permittees to submit a waste minimization facility plan either as a condition for issuing a TSD permit, or as a supplement that must be submitted within a certain time frame (e.g., 150 days) following issuance of a permit. The facility plan would include information on the amount and type of hazardous waste generated, identification of the source of waste, waste stream, and analysis of technically and economically feasible hazardous waste reduction techniques, and a program and schedule for implementing feasible reduction techniques [43]. Ibid.

Should compliance monitoring and enforcement play a greater role in promoting waste minimization? EPA believes that broadened enforcement efforts could promote pollution prevention beyond that achieved by market forces. Specifically, EPA's enforcement settlement process will be used by the agency to implement pollution prevention strategies by incorporating them into settlement agreements. "For example, settlements could require a company to conduct periodic waste audits or to submit a comprehensive analysis of the effect of waste minimization on its operations, or make specific process changes to minimize waste generation" [44]. Ibid. EPA expects this policy, to take effect in FY 1991, to be applicable to both administrative actions and civil judicial settlements negotiated in conjunction with the U.S. Department of Justice. Specifically, EPA encourages the inclusion of pollution prevention conditions, as either the means of correcting a violation, or as additional conditions incidental to injunctive relief. Such conditions may offer the best chance of avoiding recurring or future violations, without negative cross-media impacts, provided that technology and economically feasible options exist. EPA notes, however, that civil penalties will continue to be a mandatory component of the agency's settlement policy [45].

Conclusion

In sum, the minimization of waste can have significant benefits. Waste reduction and recycling not only save industry money directly through the reduction in raw material usage, but will also minimize potential environmental criminal and civil liability, as well as future Superfund and toxic tort claims. Industry must reanalyze waste generation and disposal so as to minimize future liability. Waste minimization can be accomplished through raw material substitution, product reformulation, process or equipment modification, improved housekeeping, better management practices, and on-site closed loop recycling [46].

LITERATURE CITED

2. Ibid.
7. Ibid.
17. Sierra Club v. Union Oil Co. of California, Nos. C 84-35 and C 86-6063 (N.D. Cal.).

*U.S. v. Inland Steel*, No. H90-327 (N.D. Ill.);
42. *Ibid.*