

## AMBIGUITIES IN THE EPA REPORT

EPA's position on several important waste reduction issues is unclear, because separate statements in the EPA report appear to support either side of questions likely to be posed by policymakers. These ambiguities can affect congressional policy options and the success of any national effort to encourage systematic waste reduction. Three questions are examined:

1. Does EPA regard waste reduction as the option of choice?
2. Does EPA require a new congressional mandate?
3. Has EPA made a strong commitment to a major waste reduction effort?

### Does EPA Regard Waste Reduction as the Option of Choice?

Do those who generate waste and pollution have a responsibility to fully explore waste reduction before deciding on less environmentally effective and less economically sound options such as waste treatment? OTA found that waste reduction has traditionally had primacy, but more in theory than practice. Nevertheless, theoretical primacy is a basis for public policy development. If EPA does not give such primacy to waste reduction, then the agency is unlikely to give waste reduction priority in its waste minimization efforts. And, if EPA does not give primacy to waste reduction, industry as a whole will not.

A further issue is a subtle change in language in EPA's report that would sanction as waste reduction actions that did not reduce toxicity (see box G). In changing HSWA's "volume or quantity and toxicity" to "volume *or* toxicity," the environmental benefits of waste reduction are reduced or, in some applications, negated. In the OTA report actions that merely reduce waste volume are not waste reduction. An exception is when a generator changes a production process so that less waste of the same concentration (or toxicity) is generated. But, this differs from volume reduction *after waste has been generated*, such as dewatering sludge. These actions are often attractive to waste

generators because they reduce waste *management* costs and to government because of lower use of land disposal, but they do not offer the same environmental or economic benefits as waste reduction, as EPA's report agrees (see below). Dewatering is not waste reduction, it is waste concentration.

The American public increasingly sees waste reduction as key to hazardous waste management. One of the most active groups, the Citizens Clearinghouse for Hazardous Wastes, has said:

Of all the ways to manage hazardous waste, waste reduction is the most logical and attractive with the ideal being waste elimination at the source. If you don't produce wastes in the first place, you don't have to worry about landfills, incinerators or injection wells. If there's no waste disposal problem, nightmares like Love Canal, Times Beach, MO and Woburn, MA don't recur.<sup>33</sup>

As early as 1976, EPA put waste reduction at the top of the hierarchy of hazardous waste options but relied on the marketplace for its implementation. That early endorsement of the hierarchy concept is acknowledged in EPA's waste minimization report, which contains statements similar to those in the OTA report to support the primacy of waste reduction. EPA's report says:

Both Congress and EPA believe that preventing the generation of a waste, when feasible, is inherently preferable to controlling it after it is generated.<sup>34</sup>

Preventing the generation of a waste is the only way to eliminate risk rather than reduce it.<sup>35</sup>

It is clear that the second statement does not apply to recycling and waste treatment but only to waste reduction. The following comment

<sup>33</sup>Citizen's Clearinghouse for Hazardous Wastes, Inc., "Reduction of Hazardous Waste: The Only Serious Management Option," December 1986, p. 2.

<sup>34</sup>U.S. Environmental Protection Agency, *Report to Congress: Minimization of Hazardous Waste*, op. cit., p. v.

<sup>35</sup>Ibid., p. 7. Italics in original.

**Box G.—What Language Best Protects the Environment:  
Volume *and* Toxicity, Volume or Toxicity, or Degree of Hazard?**

**HSWA on Waste Minimization**

**Throughout HSWA Section 224** on Waste Minimization, Congress used the phrase “reduce the volume or quantity and toxicity.” [underline for emphasis] In one instance, paragraph (a)(3), the phrase is shortened to “reduce the volume and toxicity.” As a consequence of this language, EPA wrote and promulgated regulations requiring the affected generators and permit holders to certify and submit reports to EPA that wastes are being reduced both by volume and toxicity. In addition, in HSWA Congress requested EPA to report to Congress on the feasibility and desirability of establishing standards or other actions to require generators to “reduce the volume or quantity *and* toxicity” of their hazardous wastes.

**EPA Report on Waste Minimization**

**While EPA has not requested Congress to amend the wording adopted in HSWA, statements are made throughout its report that imply such a change is appropriate depending on the goal chosen for waste minimization or to ease the implementation of a waste minimization program.**

The following statements represent a major change in language that could substantially alter the nature of technical activities carried out by waste generators. Instead of aiming at activities to reduce the generation of waste, generators could place emphasis on reducing their waste management costs by focusing on reducing the volume of wastes only after they are generated, without regard to the toxicity of the waste.

Page ii: The definition of waste minimization for purposes of the report to Congress reads: . . . activity undertaken by a generator that results in either (1) the reduction of total volume or quantity of hazardous waste *or* (2) the reduction of toxicity of hazardous waste, *or both*, so long as such reduction is consistent with the goal of minimizing present and future threats to human health and the environment.” [underline for emphasis]

Page iv: “Section 1003 of HSWA [that should be SDWA; HSWA has no such section] establishes the general national policy in favor of

waste minimization and refers to the need to reduce the ‘volume or quantity and toxicity’ of hazardous wastes. EPA does not interpret this language to indicate that Congress rejected volume reduction alone (with no change in the toxicity of hazardous constituents) as being a legitimate form of waste minimization. A generator that reduces the volume of its hazardous waste, even if the composition of its waste does not change, is accomplishing beneficial waste minimization.”

Page iv: “Because both volume and toxicity of wastes present dangers to human health and the environment, measuring the effectiveness of waste minimization will be complex.”

Page 13: “. . . the end result [of waste minimization as defined by HSWA] must be a reduction in the volume, quantity, *or* toxicity of wastes generated and sent to land disposal.”

Page 13-14: “By calling for simultaneous reduction in both volume and toxicity, Congress expressed a clear desire to avoid defining dewatering and other processes which merely concentrate wastes as being primary methods of waste minimization. EPA supports this Congressional concern, but also believes that Congress did not intend entirely to disqualify volume reduction by itself (with no change in toxicity) as a waste minimization technique. For example, EPA considers it beneficial if a firm can change its processes to produce less waste per unit production, even if the composition of the waste does not change. EPA also believes that waste concentration may occasionally be a useful approach to waste minimization, such as in relation to ameliorating shortages of land disposal or treatment capacity, or in preparing materials for recycling. The key concept is that waste minimization must enhance protection of human health and the environment.”

Page 39: “Policies that focus on reducing the overall volume of hazardous waste may not necessarily be best from the point of view of protecting human health and the environment. On the other hand, if the overriding priority in waste minimization is to lower burdens on treatment capacity, the Agency might want to focus on a different set of waste streams than if the main goal is to reduce high toxicity streams.”

## OTA Report on Waste Reduction

Page 21: "... actions that reduce waste volume by concentrating the hazardous content of a waste or that reduce hazard level by diluting the hazardous content are not considered waste reduction in this report."

Thus, the OTA report concurred with Congress that both reduction in volume and toxicity was necessary to reduce risks to health and the environment. But, OTA then expanded the issue of toxicity by discussing 'degree of hazard' so that those wastes hazardous because of their inflammability, corrosiveness, or explosiveness are also properly considered. In certain circumstances such characteristics can be as significant as toxicity if waste is mismanaged.

Page 22: "If a waste is not totally eliminated, however, actions taken to reduce waste may also change the chemical composition and the concentrations of the components of the waste. Therefore, examining changes in just the amount of waste generated relative to production may

not reveal whether there has been a change in the degree of hazard of the waste. Without a decrease in the degree of hazard of the waste, the action is not considered waste reduction." However, OTA does regard a decrease in the amount of waste generated per unit of output, with no change in composition, as waste reduction.

Page 23: "The best way to measure waste reduction is to determine the changes in the absolute amounts of hazardous components... Without guidance on the relative degrees of hazard for specific hazardous substances, waste generators could face burdensome analytical costs for periodic measurements of the complete chemistry of their wastes, which may be highly complex and vary over time. The current regulatory system has, for the most part, done little to differentiate hazard levels among the many hundreds of common hazardous substances. Therefore, if the government is to encourage effective waste reduction, it may have to assist generators in selecting the most hazardous components of wastes for measurement and reduction."

about the limits of regulated pollution control also supports the primacy of waste reduction:

However, control technologies are never 100 percent efficient, and compliance with regulations under any environmental program can never be perfect, even with the most stringent enforcement program.<sup>36</sup>

Other EPA statements are not as clear because of confusing use of the term waste minimization. For instance, EPA stated:

Waste minimization helps protect human health and the environment because it reduces the total amount of waste that is generated and managed... Waste minimization is a constructive approach to avoiding the risks of breakdowns in the waste management system—wastes not generated cannot be illegally disposed or emitted by faulty or inefficient equipment.<sup>37</sup>

In a policy context, EPA says:

Waste management deals with wastes after they are created; waste minimization deals

with avoiding the generation of wastes altogether... in the long term, waste minimization must take on a priority of its own.<sup>38</sup>

These statements are correct, for *waste reduction*, not *waste minimization*. Waste minimization for purposes of EPA's report includes waste reduction and recycling; the HSWA definition also includes waste treatment. But, only waste reduction *prevents* the generation of waste.

EPA, in its report, examines but does not decide on the primary goal of waste minimization. EPA statements on goals include the following:

... if the overriding priority in waste minimization is to lower burdens on treatment capacity, the Agency might want to focus on a different set of waste streams than if the main goal is to reduce high toxicity streams... Actions may be very different depending upon whether the goal of waste minimization is to relieve capacity shortages, reduce risks to human health or the environment, or minimize economic inefficiencies.<sup>39</sup>

<sup>36</sup>Ibid., p. v.

<sup>37</sup>Ibid., p. 10.

<sup>38</sup>Ibid., p. 29.

<sup>39</sup>Ibid., p. 39.

The goal of relieving waste management capacity shortages undercuts the primacy of waste reduction as a preferred environmental and economic option. There are other ways of relieving possible shortages, including: 1) allowing continued use of land disposal, 2) delisting waste as being hazardous, 3) not adding more wastes to the RCRA system, and 4) speeding up permitting for waste management facilities.

Because it has not decided on the primary goal of waste minimization, EPA has not been able to use the primacy of waste reduction to develop policy options in its report. Primacy, unambiguously stated, could justify significant levels of commitment and funding for waste reduction programs, although the regulatory programs would continue, because of their nature, to require the bulk of EPA's resources. Although the policy consequences of acknowledging the primacy of waste reduction are missing in EPA's report, EPA could still develop policy options comparable to but different from a major regulatory reform effort, seek comparability with pollution control programs, address the merits of facilitating a transition from regulated pollution activities to voluntary waste reduction, and could stress the need to act quickly when it says:

Once made, these commitments [to waste management] will be difficult to change.<sup>40</sup>

In summary, EPA's report strongly suggests that waste reduction has primacy over waste management from an environmental protection standpoint. This is consistent with the existing congressional statement of national policy. But the EPA report's statements about the goals of waste minimization and its policy options do not address the fundamental difference between waste reduction and waste management. The basis for OTA's waste reduction policy options is an emphasis on the primacy of waste reduction. Policy direction is needed to clarify this important issue of the primacy of waste reduction.

<sup>40</sup> So Ibid., p. xxiii.

## Does EPA Require a New Congressional Mandate?

Congress is at an early stage of considering options for waste reduction. Therefore, it is important to know whether EPA is able to make a strong commitment without further legislative action. EPA's requirements or goals are not clear from its report. EPA has not explicitly requested any actions of Congress,

Regarding its "strongest option . . . to promote waste minimization,"<sup>41</sup> EPA says:

No new legislative authority would be required to launch such a technical assistance effort, but adequate and sustained support by Congress would be necessary over the next ten years if it were to achieve its potential . . . Unfortunately, non-regulatory programs have often failed at EPA for lack of statutory or regulatory deadlines and institutional advocacy. For such a program to work, it must be given strong organizational support within the Agency. EPA is willing to make this commitment, and seeks support from Congress to ensure its success . . . but intensive implementation of a strategy relying on nonregulatory approaches will demand strong support and direction from Congress.<sup>42</sup>

It is not clear whether these statements are a request for new legislation or if "strong support and direction" is a request for funds. EPA may be saying that it needs further congressional policy statements, authorization, and appropriation to give the necessary commitment to waste reduction.

Regarding waste reduction and recycling, the focus of its report, EPA says:

These are the areas where national policy is still evolving and where findings of the desirability and feasibility of specific options still need to be made.<sup>43</sup>

<sup>41</sup> Ibid., p. 116.

<sup>42</sup> Ibid., pp. xx, xxvi, and 124.

<sup>43</sup> Ibid., p. 13.

Again, EPA may feel that it needs further direction from Congress. This may well be true, as several parts of the 1984 RCRA Amendments do not directly implement the national policy statement that gives primacy to waste reduction.

Regarding an EPA option to impose mandatory waste audits:

Requiring a waste audit of all generators would probably require additional legislative authority, although it might be argued that authority already exists under Section 8 of TSCA.<sup>44</sup>

Mandatory waste reduction audits may or may not require new legislation. However, EPA has not committed itself to this option. As with mandatory waste reduction regulations, the agency will offer "its next formal report on this subject in December of 1990."<sup>45</sup> Depending on what it has found, it might then seek congressional authority to pursue mandatory waste reduction audits.

Thus, it is not clear whether EPA is making a commitment to waste reduction (or waste minimization) unconditionally or is asking Congress for more detailed and explicit direction. EPA's budget requests suggest that it is waiting for new congressional direction to make a strong commitment.

OTA's report presented three major policy strategies for congressional consideration: one that requires no new congressional waste reduction action, one that would employ a traditional regulatory approach and would require congressional action, and one that would create a major new Federal effort through new legislation. A government-supported technical assistance program makes the last OTA option the most consistent with what EPA may pursue in the near term. But the OTA report discusses a much wider range of actions and a much higher level of funding than does EPA.

### **Has EPA Made a Strong Commitment to a Major Waste Reduction Effort?**

This is a critical question from a congressional viewpoint. If EPA has already embarked on a program that is broadly supported by Congress, then no further action may be deemed necessary by Congress (or others) interested in promoting more waste reduction. If not, then Congress may need to act if it concludes that present conditions will not cause industry to expeditiously reduce waste generation to the maximum feasible level.

EPA has recommended a core waste minimization program in the near term. This non-regulatory program would principally support passive information transfer and technical assistance implemented through the States. But the report does not discuss several factors important to the program, such as the level of funding, whether—and how much—money would be available to the States, and whether there would be changes in EPA's organization and structure.

The following representative statements in the report are not specific enough to answer these questions.

Aggressive action in favor of waste minimization is clearly needed .. .<sup>46</sup>

To make a significant impact on waste generation, such [nonregulatory] programs would have to be intensive and well directed.<sup>47</sup>

Despite the strong existing incentives for waste minimization discussed earlier in this report, EPA's role could be considerably expanded into an active, aggressive, and sustained program of technical information.<sup>48</sup>

An expansion of Federal involvement in this aspect of waste minimization could go far toward increasing the efficiency and pace of industry's natural inclination to reduce waste generation.<sup>49</sup>

<sup>44</sup>Ibid., p. 114.

<sup>45</sup>Ibid., p. 132.

<sup>46</sup>Ibid., p. xxv.

<sup>47</sup>Ibid., p. 124.

<sup>48</sup>Ibid., p. 115.

<sup>49</sup>Ibid., p. 11.

EPA intent is not clear in the following statement under the heading of "The Outlook for Federal Waste Minimization Policy":

EPA still has much to learn about the specifics and potential of waste minimization, and is only beginning to develop an active strategy for studying and promoting it . . . Because the data are insufficient and because it is still too soon to assess the effects of HSWA requirements, EPA can do little more in this report than to suggest the principal issues of concern.<sup>50</sup>

The principal action EPA recommends, a nonregulatory technical assistance effort, is an example of "non-regulatory programs [that] have often failed at EPA for lack of statutory or regulatory deadlines, and institutional advocacy."<sup>51</sup> The last factor is crucial to successful implementation of any waste reduction program. However, EPA's report does not describe how it will provide institutional advocacy for waste reduction.

The OTA report examined the pollution control culture, the traditional environmental protection system that has evolved over the past two decades and found that waste reduction poses a major shift in thinking—a paradigm change—about how to best achieve environmental protection. Given natural inclinations to resist change, institutional advocacy for waste reduction will be difficult unless waste reduction has a prominent place in EPA's organization and significant funding. And industry is unlikely to emphasize waste reduction unless EPA does.

EPA's focus on technical assistance consisting of passive information transfer, for the most part, is inconsistent with its conclusion that there has been a great deal of waste reduction in the past. If this were correct, then the easiest waste reduction measures would have been taken already by many waste generators and options other than the simplest forms of technical assistance would be needed now. Waste generators would need help in how to use complex and capital-intensive waste reduction

methods; government might need to support expensive technology demonstration programs. The OTA report emphasizes State grants to support in-plant technical assistance and also suggests a way to shift resources from legally mandated regulatory compliance to voluntary waste reduction.

A recent EPA report, *Unfinished Business: A Comparative Assessment of Environmental Problems*, on environmental problems and EPA priorities, also bears on EPA's commitment to waste reduction.<sup>52</sup> There is a strong indication in the report that EPA sees its spending on hazardous waste regulatory programs as high when the risks posed by hazardous waste are compared to those from other environmental problems. Although the methodology used to reach that conclusion has problems, it suggests the alternative of shifting spending on hazardous waste from costly regulatory programs to relatively inexpensive nonregulatory waste reduction efforts.

Although the EPA report has many positive qualitative statements in favor of waste reduction, they are not backed up by budgetary or other quantitative measures of EPA's plans. Since the release of EPA's report, the agency has released its fiscal year 1988 budget request. Funds for waste minimization total \$398,000 for activities in the Office of Solid waste, the Office of Research and Development, and the Office of Policy Planning and Evaluation. This budget request is less than what was spent in fiscal year 1986 and the same as in fiscal year 1987. It is 0.03 percent of the total EPA operating program budget of \$1.5 billion.<sup>53</sup> Four States (California, Illinois, North Carolina, and New York) have budgets for waste reduction or minimization programs greater than EPA's request.

This low level of support for waste minimization—presumably only some fraction is allocated for waste reduction—is in puzzling contrast to the many statements in the EPA report

<sup>50</sup>*Ibid.*, p. 29.

<sup>51</sup>*Ibid.*, p. xxvi.

<sup>52</sup>U.S. Environmental Protection Agency, *Unfinished Business: A Comparative Assessment of Environmental Problems* (Washington, DC: EPA, Office of Policy Analysis, February 1987).

<sup>53</sup>The operating program budget excludes Superfund, the underground storage tank trust fund, and the construction grants program.

about need and commitment for a major Federal waste minimization effort to assist industry and the States. This low funding level may be particularly troubling since, as EPA states, actions taken in the near term in the waste management area that are driven by the 1984 RCRA Amendments are likely to preempt waste reduction actions. Money spent for building or using waste treatment facilities will not be spent for waste reduction.

Without a major Federal program to assist industrial waste reduction, the government may be pressed to retreat from the policy of greatly limiting the use of land disposal. Because of extensive problems in siting and permitting new waste management facilities, industry could argue that the government relax its restrictions on land disposal to avoid disrupting industrial operations or a comeback of illegal waste disposal. Alternatively, the gov-

ernment could respond by making it easier to delist wastes as hazardous under RCRA and by siting and permitting new waste management facilities over the objections of affected communities. Such actions might be much easier than implementing a new waste reduction effort, but they do not offer the same level of environmental protection and economic benefit. One way to begin to prevent such a regressive situation is to embark rapidly on a major waste reduction program that aids industry to turn its attention and resources to waste reduction as soon as possible. But this cannot be done on \$398,000 per year or even a few million dollars per year. (Table 3 presents statements from the EPA report on the agency's past and future waste minimization activities and compares those statements with actual budgets and with the activity evaluations that were included in the OTA report.)

Table 3.—Funding Levels and Evaluations of EPA Waste Minimization Activities

| EPA report: descriptions of activities   | Budget commitments: past and future   | OTA report: evaluations of EPA activities  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
|--|---|--|--|---------------------------|--|----------------|-----------------|------------|----------------|-------------|-------------------|--|--------|-------------|-----------|---|
| <b>General commitment:</b>   |   |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| <p>"Reduction of waste has long been a goal of EPA. This is, in fact, the third report to Congress on the general subject, the other two having been submitted in 1973 and 1974 regarding the reduction of non-hazardous 'post-consumer' wastes ." [p. 15]</p> <p><i>Looking ahead:</i></p> <p>"An active, aggressive, and sustained program for technical assistance appears to be the strongest option available to promote waste minimization, especially in the near term." [p. xx]</p>  | <table><tr><td colspan="2">EPA FY 88</td></tr><tr><td colspan="2">waste minimization</td></tr><tr><td colspan="2">budget request</td></tr><tr><td>OSW ... ..</td><td>\$260,000</td></tr><tr><td>ORD .....</td><td>108,000</td></tr><tr><td>OPPE .....</td><td>30,000</td></tr><tr><td>Total .. ..</td><td>\$398,000</td></tr></table> | EPA FY 88  |  | waste minimization        |  | budget request |                 | OSW ... .. | \$260,000      | ORD .....   | 108,000           | OPPE .....   | 30,000 | Total .. .. | \$398,000 | <p>"Government spending on waste reduction reflects a general lack of priority for pollution prevention government [Federal, State, and local] spent almost \$16 billion in 1984 on pollution control. OTA estimates that government spending on waste reduction totaled only \$4 million in fiscal year 1986."</p>   |
| EPA FY 88  |   |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| waste minimization   |   |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| budget request   |   |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| OSW ... ..   | \$260,000   |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| ORD .....  | 108,000   |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| OPPE .....   | 30,000  |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| Total .. ..  | \$398,000   |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| <b>Existing waste minimization activities:</b>   |   |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| <i>Office of Solid Waste and Office of Research and Development</i>  |   |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| <p>"Consistent with HSWA objectives to foster waste minimization practices The Office of Solid Waste (OSW) has, over the past 2 years, attempted to design an efficient intergovernmental division of labor among EPA Headquarters, the <b>EPA Regional Offices, and the State hazardous waste programs.</b>" [p. 65]</p> <p>"EPA Headquarters and the Regional Offices are taking a leading role in support of the Federal-State partnership by conducting three essential functions: regulatory control; technical and financial assistance; and information sharing and management." [p. 65]</p> <p>Regulatory control: "EPA has implemented [the three regulatory] waste minimization provisions of HSWA," [p. 66]</p> | <table><tr><td colspan="2">OSW's</td></tr><tr><td colspan="2">waste minimization budget</td></tr><tr><td>FY 86...</td><td>\$550,000 (est)</td></tr><tr><td>FY 87 ...</td><td>260,000</td></tr><tr><td>FY 88. ,</td><td>260,000 (request)</td></tr></table>  | OSW's  |  | waste minimization budget |  | FY 86...       | \$550,000 (est) | FY 87 ...  | 260,000        | FY 88. ,    | 260,000 (request) | <p>"In keeping with Congress' initial low-key approach to waste minimization, OSW has not assumed a leadership role and considers waste minimization a low-priority item on its agenda. If considered at all, waste minimization is something for the future." [p. 161]</p> <p>"It is a reflection of the lack of any focus on waste minimization that responsibility for the current requirements of the 1984 RCRA Amendments [HSWA] is shared by many portions of OSW." [p. 162]</p> |        |             |           |   |
| OSW's  |   |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| waste minimization budget  |   |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| FY 86...   | \$550,000 (est)   |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| FY 87 ...  | 260,000   |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| FY 88. ,   | 260,000 (request)   |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| <i>Technical and financial assistance:</i>   |   |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| <p>EPA's role has been principally one of providing financial support through a number of EPA programs to promising State waste minimization efforts. It also provides research support for developing technologies that might facilitate waste minimization by selected industries." [p. 68]</p>  |   | <p>"As of March 1986 (8 months after the regulations were promulgated) little oversight was being provided by EPA. OSW was not aware of [the extent of adoption of waste minimization provisions of HSWA at the State level]" [p. 164]</p> |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| <p>EPA provides the following as examples of its technical and financial assistance efforts:</p> <p>. "Congress has allocated \$4.75 million in supplemental grant funding to the EPA Regional Offices for State and local government hazardous waste management activities." [p. 68] EPA lists the eligible activities for these grants; but does not list or evaluate the projects that resulted from the program.</p>   | <table><tr><td colspan="2">Section 8001</td></tr><tr><td colspan="2">add on grants</td></tr><tr><td colspan="2">funds</td></tr><tr><td>FY 85. ,</td><td>\$4.50 million</td></tr><tr><td>FY 86 . . .</td><td>4.75 million</td></tr><tr><td>FY 87 . . .</td><td>0 .</td></tr><tr><td>FY 88 . . .</td><td>0 .</td></tr></table>          | Section 8001   |  | add on grants             |  | funds          |                 | FY 85. ,   | \$4.50 million | FY 86 . . . | 4.75 million      | FY 87 . . .  | 0 .    | FY 88 . . . | 0 .       | <p>single largest group of projects that resulted and most of the funding [for FY 85] went for Small Quantity Generator (SQG) education and assistance projects. A review of the summaries of 80 such projects reveals that most dealt with compliance needs. Only three projects included waste reduction . . . it is unlikely that waste reduction will become a higher priority during [FY 86).]" [P. 172]</p> |
| Section 8001   |   |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| add on grants  |   |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| funds  |   |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| FY 85. ,   | \$4.50 million  |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| FY 86 . . .  | 4.75 million  |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| FY 87 . . .  | 0 .   |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| FY 88 . . .  | 0 .   |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |
| <p>"EPA did not request funds for program</p>  |   |  |  |                           |  |                |                 |            |                |             |                   |  |        |             |           |   |



**Table 3.—Funding Levels and Evacuations of EPA Waste Minimization Activities—continued**

| EPA report: descriptions of activities   | Budget commitments: past and future   | OTA report: evaluations of EPA activities   |
|--|---|---|
| <ul style="list-style-type: none"> <li>•“The Office of Research and Development's Small Business/Small Quantity Generator's Research Program provides financial support . . .” [to]:</li> </ul>  | <p style="text-align: center;">ORD<br/>small business/SQG funds</p> <p>FY 86 . . \$326,000<br/>FY 87 . . . 103000<br/>FY 88 . . . . O*</p>  |   |
| <ul style="list-style-type: none"> <li>(1) “. . . Government Refuse Collection and Disposal Association clearing-houses for information on waste management options . . .”</li> <li>(2) “. . . State technical assistance and educational programs for applied research on waste minimization . . . Funding is currently provided to North Carolina and Minnesota.” [p. 69]</li> </ul>   | <p>Contract per year:<br/>FY 66...\$126,000<br/>FY 87 . . . 103,000</p> <p>Contracts per year:<br/>NC: FY 85...\$100,000<br/>FY 86 . . . 100,000<br/>MN: FY 86...\$100,000</p>                                    | <p>OTA did not evaluate this contract because it was not relevant to reduction.</p> <p>HWERL “has funded two Small Business Initiative projects in fiscal year 1966 through State waste reduction programs (North Carolina and Minnesota). Minnesota's MnTAP will administer \$100,000 in grant on applied research project to assist small business in complying with regulatory problems. The grant will apply primarily to RCRA hazardous waste and will not be restricted to waste minimization.” [p. 209]</p> <p>The EPA grants to North Carolina's Pollution Prevention Pays Program are used along with State funds to create a comprehensive research and education grant system. [see pp. 218-219]</p> <p>. . . is the EPA center [of Excellence] where work is most directly related to waste reduction. Its annual budget is based on the EPA grant [\$540,000 per year] . . . specific projects have focused on [research with some relevance to waste reduction] . . . The center would like to pursue waste reduction more directly but does not do so because the subject lacks priority at EPA . . . [p. 185]</p> |
| <ul style="list-style-type: none"> <li>•“The Office of Research and Development also supports research and development or recycling technology and clean manufacturing processes at the Industrial Waste Elimination Research Center at the Illinois Institute of Technology.” [p. 70]</li> </ul>  |   |   |
| <ul style="list-style-type: none"> <li>•Other Office of Research and Development activities are listed by EPA as <ul style="list-style-type: none"> <li>(1) “The regional support services staff serves as a clearinghouse . . . by fielding requests for technical information or technology transfer. . .”</li> <li>(2) “The Hazardous Waste [Engineering] Research Laboratory is undertaking research on waste reduction and recycling . . .”</li> <li>(3) ORD “administered funding for applied research recently conducted for OSW in cooperation with Tufts University. The Tufts Center for Environmental Management conducted a [waste minimization] foreign practices study . . .” [p. 70]</li> </ul> </li> </ul> | <p style="text-align: center;">HWERL'S<br/>Alternative Technologies Division<br/>Waste minimization research funding:</p> <p>FY 86....\$235,000<br/>FY 87 . . . . 108,000<br/>FY 88 . . . . 108,000 (request)</p> | <p>OTA did not evaluate these activities.</p> <p>“Despite claims that HWERL is ‘working to foster increased use of . . . waste reduction’ OTA could find little work specifically directed toward this objective . . . Funding for fiscal year 1986 is . . . being used for one contract . . . [on waste reduction auditing procedures].” [p. 184]</p> <p>“The Center for Environment Management at Tufts University is funded principally by EPA at a cost of \$2 million per year . . . Waste Reduction and Treatment is one of four ‘clusters of concentration’ [at the Center]. Two projects [relevant to waste minimization or waste reduction] have been completed: a study of foreign government waste minimization practices and the organization of a conference.” [p. 188]</p> <p>OTA did not directly evaluate the information-sharing aspect of EPA's waste minimization efforts in its report because they had little focus on waste reduction. The activities have concerned EPA's Report to Congress or were not contingent on EPA funding.</p>  |
| <p><i>Information Sharing and Management:</i><br/>“EPA can draw upon several existing sources of information in order to further the dissemination and sharing of knowledge about hazardous waste generation and waste minimization policy . . .” [p. 70]</p>  |   |   |

\*EPA did not request funds for program

**Table 3.—Funding Levels and Evaluations of EPA Waste Minimization Activities—Continued**

| EPA report: descriptions of activities  | Budget commitments: past and future | OTA report: evaluations of EPA activities   |
|---|-------------------------------------|---|
| <p>EPA lists the following examples of information sharing:</p> <ul style="list-style-type: none"> <li>(1) Sponsorship of two waste reduction conferences held at Woods Hole in 1985 and 1988.</li> <li>(2) Co-sponsorship and assistance in coordinating three workshops for State Waste Reduction Programs,</li> <li>(3) Waste minimization presentations by EPA staff at seven conferences.</li> <li>(4) Support to the Environmental Auditing Roundtable.</li> </ul> <p>In the information management category, EPA discusses the value of "existing mechanisms [that] afford a significant basis upon which to develop a comprehensive overview of the use, movement, and fate of all chemicals and wastes of concern and to determine the changes resulting from altered economic and regulatory conditions." [p. 73]</p> |                                     | <p>OTA devoted a chapter in its report to information needs and availability for waste reduction in setting policy goals and in implementing and evaluating potential regulatory and nonregulatory programs. Primarily because waste reduction is a process specific endeavor, little was found in the existing information gathering capability of EPA that significantly satisfied those needs.</p> |

SOURCES For column 1, U S. Environmental Protection Agency, *Report to Congress Minimization of Hazardous Waste*, EPA/530-SW-88-033 (Washington, DC: EPA, Office of Solid Waste and Emergency Response, October 1988), pages as noted. For column 2, OTA 1987. For column 3, U.S. Congress, Office of Technology Assessment, *Serious Reduction of Hazardous Waste*, OTA-ITE-317 (Washington, DC: U.S. Government Printing Office, September 1988), pages as noted