

BY THE U.S. GENERAL ACCOUNTING OFFICE

**Report To The Chairman, Subcommittee On  
Commerce, Transportation And Tourism  
Committee On Energy And Commerce  
House Of Representatives**

**State Experiences With Taxes On Generators  
Or Disposers Of Hazardous Waste**

To raise revenue for hazardous waste cleanup efforts and to provide greater economic incentives for more desirable hazardous waste management practices, the Congress is considering various taxes on hazardous waste generation, transportation, treatment, storage, and disposal.

This report discusses the experiences New York, New Hampshire, and California have had with taxes similar to those now proposed at the federal level. GAO found that the three states

- have not collected the revenues they anticipated,
- have not determined if the tax achieved its objective of encouraging more desirable waste management practices, and
- were concerned that a similar federal tax may reduce state tax revenue or increase the incentive to illegally dispose of hazardous waste.

In addition, GAO believes that in order to implement similar federal taxes, more data are needed on the types and quantities of waste generated and the disposal methods used. These data are necessary to realistically estimate revenue, measure changes in disposal practices, and assure compliance with the tax.



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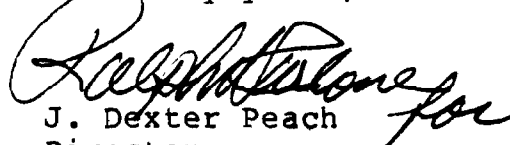
The Honorable James J. Florio  
Chairman, Subcommittee on Commerce,  
Transportation and Tourism  
Committee on Energy and Commerce  
House of Representatives

Dear Mr. Chairman:

Your letter of September 27, 1983, asked that we examine how well existing state waste-end tax systems are operating, and the implications for imposing a similar federal tax. This report addresses the issues raised in your letter.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 7 days from the date of the report. At that time, we will send copies to interested parties and make copies available to others upon request.

Sincerely yours,

  
J. Dexter Peach  
Director





(Continued)

<u>State</u>	<u>Tax description</u>	<u>Effective date of tax</u>	<u>Purpose of tax</u>	<u>When tax paid</u>	<u>Who collects the tax</u>
Missouri	Four separate taxes on:				
	A. \$1/ton tax on generators producing more than 10 tons of hazardous waste a year.	1980	Fund administrative costs of the state's hazardous waste program	Annually	Department of Natural Resources
	B. 2 percent of gross receipts from states's only commercial landfill.	1981	Same as A	Annually	Department of Natural Resources
	C. \$25/ton on all landfill wastes over 10 tons. \$2/ton on all wastes over 10 tons transported off site. No tax imposed on specified waste or recycled wastes.	June 1983	Raise revenue to clean up inactive hazardous waste sites	Annually	Department of Natural Resources
	D. Generators must pay \$2 per employee. Exempted from the tax are generators of waste oil.	September 1983	Same as C	Quarterly <sup>C</sup>	Department of Natural Resources

<sup>C</sup>If a generator pays less than \$1,000/year, it can pay annually rather than quarterly.

(089258)

GENERAL ACCOUNTING OFFICE  
REPORT TO THE CHAIRMAN  
SUBCOMMITTEE ON COMMERCE,  
TRANSPORTATION AND TOURISM  
COMMITTEE ON ENERGY AND COMMERCE  
HOUSE OF REPRESENTATIVES

STATE EXPERIENCES WITH  
TAXES ON GENERATORS OR  
DISPOSERS OF HAZARDOUS  
WASTE

D I G E S T

The Comprehensive Environmental Response, Compensation, and Liability Act imposes a tax on the production or importation of 42 organic and inorganic chemicals and certain crude oil and petroleum products. Virtually all hazardous substances--including hazardous wastes--are generated during subsequent production processes using these so-called feedstocks or raw materials. The revenue from this feedstock tax is used primarily to fund federal cleanup efforts at abandoned hazardous waste sites. The taxing authority provided in the act expires on September 30, 1985. Several bills have been introduced in the 98th Congress which would require a more direct tax or fee on hazardous wastes either at the point of generation or at disposal. Such taxes would be paid by the persons generating or disposing of the wastes. Depending on the proposal adopted, the revenue from these taxes or fees, commonly known as "waste-end taxes," would either replace or supplement the current feedstock tax revenue.

In addition to generating revenue, a primary objective of each of the proposed waste-end taxes is to provide economic incentives for more desirable waste management practices, such as waste recycling or incineration. The incentives proposed include exemptions from the tax and/or variable tax rates that would place a higher tax on less desirable waste management practices, such as land disposal. The current feedstock tax does not provide as direct an economic incentive because it taxes raw materials rather than the waste itself.

According to the Environmental Protection Agency (EPA), at least 11 states employ or have employed waste-end taxes similar in form and purpose to those now proposed at the federal level.

At the request of the Chairman, Subcommittee on Commerce, Transportation and Tourism, House Committee on Energy and Commerce, GAO examined how well waste-end taxes are operating in New York, New Hampshire, and California and implementation problems a similar federal tax may encounter. GAO's review examined (1) whether these states have achieved their objectives in establishing a waste-end tax, (2) what concerns state officials have about proposed federal waste-end taxes, and (3) what types of information on taxable wastes and activities would be needed to implement a federal waste-end tax.

GAO found that the three states (1) have not collected the revenues they anticipated, (2) have not determined if the tax achieved its objective of encouraging more desirable waste management practices, and (3) were concerned that a similar federal tax may reduce state tax revenues or increase the incentive to illegally dispose of hazardous waste. In addition, GAO found that in order to implement similar federal waste-end taxes, more data are needed on the types and quantities of waste generated and the treatment, storage, and disposal methods used. These data are necessary to accurately estimate revenue, measure change in disposal practices, and assure compliance with the tax.

#### STATE EXPERIENCES IN ACHIEVING TAX OBJECTIVES

A primary objective of the New York, New Hampshire, and California waste-end taxes, which are paid by hazardous waste generators, is to collect revenue to fund state hazardous waste cleanup efforts. However, these states have not generated the amount of revenue that they had anticipated.

New York anticipated collecting \$10 million in annual revenue from its 1982 tax on hazardous waste generators, but collected only \$3 million in the first year of the tax which ended August 30, 1983. New York officials cite several possible reasons for not meeting anticipated collections, including an inaccurate projection, a depressed economy; a loss of out-of-state business at New York disposal facilities (owners or operators of



disposal facilities rather than generators pay the tax on out-of-state generated waste); the misuse of a materials recovery exemption which was intended to exclude from taxation wastes that are recycled; and to a lesser extent, the underreporting or nonreporting of waste. (See p. 8.)

New Hampshire estimated annual tax receipts of \$700,000 from its tax on hazardous waste generators but fell more than \$620,000 short for both of the first 2 years of its tax--the tax years ending June 30, 1982 and 1983. State officials said their estimate of tax receipts was unrealistic and greatly overstated the amount of hazardous waste actually being generated. They said that their underestimate was not due to the underreporting and nonreporting of waste. (See p. 11.)

California expected to raise \$10 million per year from its tax on hazardous waste generators. For 1981, the first year of the tax, about \$9.2 million was collected. For 1982, about \$7.6 million was collected. A state tax official attributed the state's lower than anticipated tax collections in the first year to reclassifying certain types of waste generators to a lower tax rate. The tax official attributed the second-year revenue shortfall to taxpayer reporting errors, such as wastes being reported in a lower tax category. (See p. 13.)

For the second year of the tax, California also experienced a decrease of about one million tons of hazardous waste reported for tax purposes. While state officials attributed about 70 percent of the decrease to one mining company's storing its waste for recycling rather than disposing of it as in the previous year, they were uncertain of the reasons for the remainder of the decrease. (See p. 14.)

California also imposes a tax paid by disposal facilities. This tax has been in existence since 1974. The revenue from this tax is used to fund the state's hazardous waste management program. Revenue received from this tax has met the level anticipated in every year except one--1983. In that year, the shortage amounted to about \$400,000 out of an anticipated \$6.4 million. State officials attributed the shortage to a poor economy in the state that

year. The officials also said that while this tax has generally raised the anticipated revenue, prior to 1981 when the State Board of Equalization assumed responsibility for administering the tax, there were underreporting and nonreporting problems. Since then, however, these problems have greatly diminished. (See p. 14.)

A second objective of each state's waste-end tax is to encourage waste recycling and other desirable waste management practices through financial incentives. New York, for example, charges generators \$12 per ton for land disposal of wastes, but only \$2 per ton for wastes incinerated at the generator's facility. Recycled wastes are exempt from the tax. Neither New York, New Hampshire, nor California know how successful their taxes have been in encouraging desirable waste management practices because they lacked the types of information that are necessary to measure changes in hazardous waste treatment, storage, and disposal practices. (See p. 15.)

#### STATE AND INDUSTRY CONCERNS ABOUT FEDERAL WASTE-END TAX PROPOSALS

State hazardous waste officials in New York, New Hampshire, and California expressed concerns about the proposed federal waste-end taxes. Their primary concern is the possibility of federal preemption of their state waste-end taxes and the resulting loss of revenue for state-funded cleanup efforts. State officials view preemption as a concern because a provision in the current federal feedstock tax on chemicals and petroleum products preempts states from enacting taxes for the same purposes. (See p. 18.)

Another concern, assuming state taxes are not preempted, is the potential impact of a federal tax on top of existing state taxes. A California official, for example, stated this could increase pressure from the hazardous waste industry to repeal the state's tax. Officials in all three states also expressed concern that the proposed federal tax rates, which in some cases are much higher than state tax rates, could increase the incentive to illegally dispose of wastes to avoid the tax. For example, of the three states, New Hampshire's \$36 per

ton tax rate is the highest; however, the proposed federal tax rates are as high as \$100 per ton. (See p. 18.)

The state officials are also concerned that a federal tax may aggravate an existing problem caused by the conflicting objectives inherent in many waste-end tax systems. The more successful the tax is in achieving its objective of encouraging more desirable waste management practices through variable tax rates or exemptions, the less successful the tax will be in raising needed revenue. For example, if large amounts of waste are shifted from land disposal to a tax exempt recycling process, the tax revenue from the land disposal of such waste would be lost. State officials believe that the relatively higher federal taxes could accelerate hazardous waste disposers' decisions to switch to low- or non-taxed alternatives. (See p. 23.)

Representatives of eight hazardous waste generators and five treatment, storage, and disposal facilities that GAO contacted in New York, New Hampshire, or California had varied opinions regarding federal waste-end taxes. Some said that such a tax would add costs, others said it would have no impact, and some were uncertain of the potential impact. (See p. 24.)

INFORMATION AND REGULATIONS NEEDED  
TO IMPLEMENT AND ADMINISTER A  
FEDERAL WASTE-END TAX

GAO reviewed information needs related to making revenue projections, measuring changes in waste management practices, and assuring compliance with the tax for the waste-end taxes proposed in H.R. 2627, H.R. 3129, and H.R. 4813. The proposals vary, but GAO believes implementing each will require information on the types and quantities of waste generated as well as the treatment, storage, or disposal methods used. For example, realistic tax revenue projections will require information on the types and quantities of waste generated broken down by taxable activities such as land disposal, underground injection, or storage. Measuring changes in waste management practices will require trend information on how the various

types of waste are treated, stored, or disposed of. An effective compliance program will require identification of the potential taxpayers and verification of the types and quantities of wastes generated and the taxable activities that were used.

Information that is currently available to EPA is either incomplete or unreliable. EPA is now implementing a biennial reporting requirement for states; hazardous waste generators; and treatment, storage, and disposal facilities which will provide some of the needed data. EPA estimates that the data obtained from these reports will be available by early 1985. However, since the biennial report was not designed to meet the information needs of a waste-end tax program, its data requirements and frequency of submission would have to be tailored to the specific waste-end tax that is adopted. (See p. 26.)

Each of the tax proposals GAO reviewed will require implementing regulations. Neither EPA nor the Internal Revenue Service has estimated the time or cost to implement the proposals. Officials at both agencies, however, said that the more complex the tax system, the more time it will take to implement. (See p. 30.)

#### AGENCY COMMENTS

GAO did not obtain state or federal agency comments on this report. GAO did, however, discuss the report's contents with New York, New Hampshire, and California state officials involved in administering waste-end taxes, as well as EPA and Internal Revenue Service officials involved in reviewing waste-end tax proposals. Their views, when applicable, have been included in the report.

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ABBREVIATIONS

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EPA	Environmental Protection Agency
GAO	General Accounting Office
IRS	Internal Revenue Service
RCRA	Resource Conservation and Recovery Act

## CHAPTER 1

### INTRODUCTION

In 1980, the Congress passed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. 9601-9657). The act established a fund to, among other things, clean up hazardous waste<sup>1</sup> disposal sites. Among the options the Congress considered as sources of revenue were: (1) tax the producers of chemicals and other raw materials which, when used in the production process, result in hazardous substances<sup>2</sup> and hazardous waste (commonly known as a feedstock tax), (2) tax the actual generator, transporter, storer, treater, or disposer of hazardous waste (commonly known as a waste-end tax), or (3) use appropriated funds.

#### FEEDSTOCK TAX SELECTED AS A SOURCE OF FUNDS

To fund seven-eighths of the \$1.6 billion CERCLA fund, the Congress selected a feedstock tax on 11 primary petrochemicals, 31 inorganic raw materials, and crude oil and petroleum products--the so-called building blocks of hazardous substances and hazardous waste. One eighth of the cost is to be paid from general tax revenue through appropriated funds.

In July 1980, the Committee on Environment and Public Works issued its report (Senate Report 96-848) favoring the adoption of a feedstock tax in lieu of a waste-end tax. That report includes the following reasons for selecting a feedstock tax:

- Virtually all hazardous substances and wastes are generated from the taxed feedstock raw materials.
- The feedstock tax would be easier to administer than a waste-end tax because it would be levied on fewer than 1,000 companies, instead of the 260,000 necessary for a waste-end tax.
- Collecting a fee at the beginning of the production cycle would use the efficiency of the marketplace to automatically and broadly distribute the risks associated with chemicals through fees on all industrial sectors in the

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<sup>1</sup>A hazardous waste is generally defined by EPA as a waste which has the characteristic of being ignitable, corrosive, reactive, or toxic. EPA has identified about 450 wastes which meet one or more of these characteristics.

<sup>2</sup>A hazardous substance, as defined in CERCLA, includes hazardous waste and a number of substances controlled under other environmental acts. There are 696 such hazardous substances.

production, transportation, use, and disposal of hazardous substances.

The Senate report also notes that if the appropriations were authorized to fund a portion of costs, it would, among other things, help to avoid delays in cleanup because of possible collection problems, and assure scrutiny of the fund by the administration and the Congress.

According to an EPA report on CERCLA, the major advantage of the feedstock tax is that it is a fairly reliable source of revenue. The report also points out, however, that the feedstock tax creates few or no incentives for waste reduction or more desirable waste management practices.

#### WASTE-END TAXES ARE BEING RECONSIDERED

The CERCLA taxing authorization expires September 30, 1985. The Environmental Protection Agency (EPA), however, has identified a continuing need for the fund. As of February 15, 1984, six bills had been introduced in Congress which would either replace or supplement the current feedstock tax. Each of the bills provides for a federal tax on the generation, transportation, storage, treatment, and/or disposal of hazardous waste. Each of the bills, in addition to raising revenue, is to provide economic incentives to encourage desirable waste management practices such as waste recycling, reuse, and incineration.

To provide economic incentives the bills would tax less desirable practices such as land disposal at a higher rate than desirable practices such as recycling or incineration. The proposals vary, however, on the activity taxed, who pays the tax, tax rates, wastes taxed, exemptions provided, the use of revenue obtained, and other factors. An important feature of some of the proposals is the use of a degree of hazard in setting tax rates. For example, the greater the environmental or health risks the hazardous waste poses, the higher the waste would be taxed. EPA would be directed to rank the hazardous wastes accordingly.

Chapters 3 and 4 of this report discuss the waste-end tax proposals in light of the added costs of disposal and the additional information and regulations needed to implement these proposals. We selected three different proposals for analysis: H.R. 2627 (the Senate counterpart is S. 860); H.R. 3129 (the Senate counterpart is S. 1779); and H.R. 4813. These were the three major proposals being considered as of February 15, 1984. Appendix VI contains a summary of these proposals.

#### RELATED FEDERAL LAW

The definition of hazardous waste in the proposed waste-end tax bills includes the definition in the Resource Conservation and Recovery Act (RCRA) (Public Law 94-580, 42 U.S.C. 6901, et seq.)



and EPA regulations. Under RCRA, EPA has established reporting, recordkeeping, performance, and operating standards for each of the approximately 49,000 generators, 12,000 transporters, and 7,500 facilities that treat, store, or dispose of hazardous waste. Important components of EPA's "cradle-to-grave" control system for managing hazardous wastes are manifests for tracking wastes and technical design and operating standards for treatment, storage, and disposal facilities. The manifest is a document listing the type, origin, routing, and destination of the waste that accompanies the waste from the generator to the treatment, storage, or disposal facility. Copies of the manifest are to be returned to the generator, who is responsible for keeping track of the waste. The technical design and operating standards for treatment, storage, and disposal facilities include liner requirements to prevent movement of waste out of land disposal facilities, groundwater monitoring requirements for such facilities, and other requirements. In some cases the requirements differ depending on whether the facility is a new or existing facility. Authorized states and EPA are in the process of issuing permits to owners and operators of hazardous waste treatment, storage, and disposal facilities that meet these standards.

#### STATE WASTE-END TAXES

According to ICF Incorporated, an EPA contractor studying state hazardous waste program financing alternatives, at least 11 states have employed some type of waste-end tax to fund their cleanup efforts. Like the proposed federal waste-end taxes, existing state taxes vary by taxable parties, substances, and activities. These state taxes also vary by tax rates employed, exemptions provided, fund uses, and other factors. We reviewed the New York, New Hampshire, and California waste-end tax systems which are discussed briefly below. More detailed information on these state systems is contained in appendixes II through V.

New York's tax became effective in September 1982. The tax is assessed quarterly on hazardous waste generators for wastes generated within the state or by the operator of a treatment or disposal facility if the waste comes from another state. The tax rates are

- \$2 per ton on waste incinerated onsite (wastes generated and incinerated at the same location);
- \$9 per ton on waste treated or disposed of offsite, exclusive of disposal in a landfill; and
- \$12 per ton on land disposal of waste (onsite or offsite).

Revenue from New York's tax is used both to fund cleanup efforts at inactive hazardous waste sites and to meet financial matching requirements for similar federal cleanup efforts.

New Hampshire's tax became effective in June 1981. This tax is paid by hazardous waste generators within the state. No commercial treatment, storage, or disposal facilities are currently located in New Hampshire. The tax rate is 4 cents per kilogram (\$36 per ton) on all generators producing more than 300 kilograms (660 pounds) of waste per quarter. Revenue is used both to fund cleanup efforts at inactive hazardous waste sites and to meet financial matching requirements for similar federal cleanup efforts.

California's tax on hazardous waste generators became effective in September 1981. The tax is assessed annually on wastes that are disposed of in or on the land and divided into four categories and corresponding rates. While the categories are permanent, the tax rates can be adjusted annually. The categories and 1982 rates are:

- \$1.39 per ton for certain wastes (generally energy related) which are exempt from federal regulation, and waste placed into evaporation ponds (category A). Examples include drilling muds, brines, and fly ash.
- \$9.29 per ton for other hazardous waste disposed of in or on the land (category B). Examples include metal plating wastes, solvents, and most flammable liquids.
- \$18.58 per ton for extremely hazardous waste disposed of in or on the land (category C). Examples include cyanides and strong acids.
- \$0.09 per ton for certain mining process wastes (category D). An example is mine tailings.

As in New York and New Hampshire, revenue from this tax is used both to fund cleanup efforts at inactive hazardous waste sites and to meet financial matching requirements for similar federal cleanup efforts.

California has another waste-end tax which became effective in 1974. Owners or operators of treatment, storage, and disposal facilities pay a monthly tax on the first 2,500 tons of waste they handle. The tax rate is \$6.40 per ton for nonrestricted hazardous wastes and \$18 per ton for restricted hazardous wastes. (Restricted wastes are those wastes the state plans ultimately to ban from land disposal.) Unlike the other state tax systems discussed, the revenue from this tax is used to fund state costs for inspecting active disposal facilities and other state hazardous waste program costs.

#### OTHER STUDIES ON WASTE-END TAXES

Section 301(a)(1)(G) of CERCLA requires the administration to submit to the Congress an assessment of the feasibility and desirability of a schedule of taxes that would include consideration

of, among other things, a degree-of-hazard ranking system and incentives for desirable waste management practices. The report on these alternatives or needed changes to the feedstock tax is required by December 1984. An EPA task force is making the assessment and EPA expects to meet the report date. As of February 1, 1983, EPA had selected the study methodology it will use. The methodology includes analyzing alternatives to the feedstock tax using the following seven criteria: (1) revenue-generating ability, (2) equity, (3) administrative simplicity, (4) economic impacts, (5) economic incentives, (6) implementing time frame, and (7) programmatic implications. An analysis of state experiences with waste-end taxes will be included.

The Subcommittee on Commerce, Transportation and Tourism, House Committee on Energy and Commerce, has asked the Office of Technology Assessment to examine, among other things, whether the feedstock tax is the best method for raising revenue for the CERCLA-required cleanup program and the technological implications of various funding alternatives. The Office expects to issue a final report on its work by the fall of 1984.

#### OBJECTIVES, SCOPE, AND METHODOLOGY

In a September 27, 1983 letter, the Chairman, Subcommittee on Commerce, Transportation and Tourism, House Committee on Energy and Commerce, requested us to examine the experiences states have had in implementing a waste-end tax and to determine the implications of imposing a similar federal tax. Recognizing the EPA and Office of Technology Assessment studies, the Chairman requested early information on the following specific questions:

1. How have state waste-end taxes been administered and what problems have arisen with such systems? Specifically, have the states experienced large decreases in the amounts of waste reported following the adoption of such tax systems, leading them to suspect serious under-reporting problems?
2. Have state waste-end taxes produced the desired results in revenue generated and waste management practices adopted, or have they operated to encourage such undesirable practices as midnight dumping?
3. What impact would adopting a federal waste-end tax system have on existing state cleanup programs, particularly in those states which have also adopted a waste-end system?
4. What administration and collection problems would arise in attempting to implement a waste-end tax system on a national level? For example, could establishing the tax rolls in such a program rely on data generated under RCRA or would a separate system of data collection be necessary? How long would it take to fully implement such a program? How reliable would the projected revenue estimates be under a waste-end tax system?

We agreed with the Chairman's office to review in detail the New York, New Hampshire, and California tax systems. New York and California were selected because they are two of the largest states in terms of hazardous waste generated. Also, California has had a waste-end tax system in place longer than any other state. New Hampshire, a small state in terms of the amount of hazardous waste generated, was chosen (1) for contrast with New York and California and (2) to examine a large reported shortage from projected waste-end tax revenues.

To determine how state waste-end tax systems are administered and what problems have arisen, we reviewed appropriate state tax laws and implementing regulations. We interviewed state solid and hazardous waste officials. Where involved in collections, we also interviewed state tax officials. We also analyzed waste volume data when they were available and attempted to determine the reasons for any significant changes in the volumes reported.

To determine whether state waste-end taxes have produced the desired results in revenue generated and waste management practices adopted, we reviewed the available data used to make revenue projections and the actual revenue collected. We also reviewed available pre- and post-tax information on the types and quantities of waste generated and the treatment, storage, or disposal methods used. To find out if state waste-end taxes encouraged more desirable waste management practices, we interviewed state officials.

To obtain information on the impact a federal waste-end tax could have on existing state waste-end tax systems and the hazardous waste cleanup programs financed by such taxes, we interviewed state officials responsible for those specific programs in the states we visited. We also discussed this and other issues with appropriate state officials in eight other states<sup>3</sup>-- Connecticut, Florida, Illinois, Kentucky, Minnesota, Missouri, Ohio, and South Carolina. We also analyzed the potential increase in certain disposal costs that federal tax proposals could entail. To obtain a sampling of local industry views on the impact of existing state taxes and proposed federal taxes, we contacted officials at five commercial hazardous waste treatment, storage, and disposal facilities--two in California and three in New York. State officials identified these facilities as among the larger commercial facilities. New Hampshire does not have any commercial treatment, storage, or disposal facilities. We also

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<sup>3</sup>These states along with the three states we visited were listed as employing a waste-end tax by ICF Incorporated, a contractor that was studying state hazardous waste program financing alternatives for EPA. Florida repealed its waste-end tax in July 1983, because it was dissatisfied with the amount of revenue collected and the costs associated with administering the tax.

contacted eight hazardous waste generators<sup>4</sup>--three in New Hampshire, three in California, and two in New York. State officials identified seven of these generators as among the larger taxpayers in their respective states. We selected one small generator in New Hampshire because of the large number of such generators in the state. Because of the limited sample of hazardous waste handlers, the information in this report represents the views of the officials we contacted and cannot be projected to any one group. To determine if a federal waste-end tax might encourage illegal disposal to avoid the tax, we estimated the effect the three tax proposals discussed in this report would have on disposal costs.

To determine what administration and collection problems could arise in implementing a nationwide waste-end tax, we examined information needs related to making revenue projections, measuring changes in waste management practices, and assuring compliance with the tax. We reviewed the preliminary results of EPA's assessment of alternative financing methods for the CERCLA feedstock tax. We also reviewed current and planned hazardous waste reporting requirements to determine their potential usefulness in projecting revenues and providing other information needed to administer a federal waste-end tax. We also interviewed EPA, Department of Treasury, and Internal Revenue Service officials to obtain estimates of the time needed to implement federal waste-end taxes. To obtain opinions and pertinent studies on implementing a federal waste-end tax, we interviewed officials at the American Petroleum Institute, the Association of State and Territorial Solid Waste Management Officials, the Chemical Manufacturers Association, the National Council of State Legislatures, the National Governors Association, and the National Solid Waste Management Association.

As requested by the Chairman, we did not obtain written comments on this report. However, we did discuss the report's contents with New York, New Hampshire, and California state program officials involved in administering waste-end taxes, as well as EPA and IRS officials involved in reviewing waste-end tax proposals, and when applicable, have included their views.

Our work was conducted from October 1983 through January 1984, and except as noted above, we made our review in accordance with generally accepted government auditing standards.

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<sup>4</sup>See appendix I for a listing of state, generator, and treatment, storage, and disposal facility officials contacted.

## CHAPTER 2

### STATE EXPERIENCES WITH WASTE-END TAXES

The objectives of the New York, New Hampshire, and California waste-end tax programs are to raise revenue and to provide financial incentives for more desirable hazardous waste management practices. None of the states, however, have collected the revenue that they had anticipated. The reasons for the shortages vary, but a major problem was that no sound basis existed for determining the amount of revenue to be raised from the tax. With respect to the second objective, none of the three states had the types of information that are necessary to determine how effectively the financial incentives are encouraging more desirable hazardous waste management practices. Furthermore, according to state officials, a complicating factor in measuring success in encouraging more desirable waste management practices is that factors other than the tax could influence such practices. One important factor is the increased liability for paying cleanup costs that hazardous waste generators now face if their disposed waste later causes environmental or health problems. This increased liability may cause generators to alter their waste management practices. Another factor is the increased land disposal costs brought about by more stringent EPA requirements for such disposal.

#### STATES HAVE NOT ACHIEVED ANTICIPATED REVENUE

New York, New Hampshire, and California have all received less revenue from their respective waste-end taxes than they had anticipated. State officials attribute the shortages to various reasons, including inaccurate revenue projections, poor economic conditions during the tax years, loss of waste from out-of-state generators, changing tax rates, and taxpayer reporting errors. The states, however, have not analyzed how much of the shortages can be attributed to any of these reasons. A discussion of each state's waste-end tax revenue follows.

#### New York

New York originally projected that \$10 million a year would be raised by its waste-end tax. However, this tax generated only about \$3 million in the first year that the tax was in place, September 1982 through August 1983. The table below shows projected and actual waste tonnage and revenue for New York's tax categories.

Comparison of New York's Projected Annual Waste Tonnage and  
Revenue with Actual Tonnage and Revenue for the Period  
September 1, 1982, Through August 31, 1983

<u>Tax category</u>	<u>Tax rate (per ton)</u>	<u>Projected annual tonnage</u>	<u>Projected annual revenue</u>	<u>Actual annual tonnage</u>	<u>Actual annual revenue</u>
Wastes--landfilled	\$12	300,000	\$ 3,600,000	141,680	\$1,700,200
Wastes--treated offsite	9	575,000	5,175,000	131,600	1,184,400
Incineration onsite	2	150,000	300,000	54,800	109,600
Fines and penalties			925,000		85,800 <sup>a</sup>
<b>Total</b>		<u>1,025,000</u>	<u>\$10,000,000</u>	<u>328,080</u>	<u>\$3,080,000</u>

<sup>a</sup>In testimony on January 25, 1984, before the Subcommittee on Commerce, Transportation and Tourism, the Director of the Division of Solid and Hazardous Wastes revised this figure to \$43,281.

Six months after the tax was in place, the Chief of the New York Bureau of Hazardous Site Control in the Department of Environmental Conservation, which is responsible for administering the tax, attempted to determine why the tax was not generating the projected revenue. Although his documentation supporting the basis for the reasons is limited, he believes that the shortage can be attributed to (1) inaccurate revenue projections, (2) a poor economy, (3) a decrease in out-of-state wastes disposed of in New York, (4) misuse of a materials recovery exemption, and (5) the underreporting or nonreporting of waste. Because of the significant shortfall in generated revenue, New York is considering alternatives for increasing tax revenue.

The Chief could provide no documentation supporting the \$10 million projection. He did say that the projection was based on a 1979 inventory and a 1980 update of hazardous waste generation in New York State. We could not, however, relate these inventories to the projection. The Chief acknowledged that this could not be done because the waste generation categories in the inventories do not match the waste categories that are taxed. He further explained that, during legislative hearings on the state's tax proposal, he and his staff revised the \$10 million projection. This revision reduced the \$10 million projected to be collected to \$7 to \$8 million. He could provide no documentation showing the basis for the revision but explained that the projection was based on the same inventory data as the \$10 million projection as well as on engineering judgments. The Director of the Division of Solid and Hazardous Waste and the Chief of the Bureau of Hazardous Site Control, both in the Department of Environmental Conservation, acknowledged that both the original projection and the revision are overstated and are one of the reasons for the

revenue shortage. They have not, however, quantified how much of the shortage can be attributed to the inaccurate projections.

With respect to the impact of the economy on tax revenue, the Chief estimates that about \$1.75 million of the shortage can be attributed to a poor economy during the tax year. The Chief said this estimate is based on a discussion with a representative from one of the state's large hazardous waste treatment and disposal facilities. The representative told the Chief that his business was depressed by about 25 percent because the poor economic situation forced industries to operate at a lower capacity and, therefore, to generate less waste. The Chief applied the facility representative's estimate of a 25 percent reduction in business to the revised \$7 million revenue projection and calculated the \$1.75 million reduction in revenue.

The Chief also estimates that \$0.5 million or more of the shortage can be attributed to a decrease in the amount of out-of-state hazardous waste disposed of in New York. This estimate also comes from the treatment and disposal facility representative noted above. The representative indicated that his out-of-state business had decreased by about one-third because such waste was being shipped for disposal to states without a tax. To confirm this statement, we contacted three commercial treatment, storage, and disposal facilities in New York: CECOS International, SCA Chemical Services, and Frontier Chemical Company. Officials of all three firms indicated that their out-of-state business has decreased since imposition of the tax. Although the facilities could not provide us with the exact amount of the decrease, the SCA Controller estimated the decrease to be about 25 to 33 percent of its out-of-state business, and CECOS' Chief Financial Officer estimated the decrease at between 6 and 16 percent. Frontier Chemical's Environmental Affairs Specialist did not provide an estimate.

Regarding the misuse of the materials recovery exemption, the Chief, Bureau of Hazardous Site Control, explained that although recycled waste is exempt from the disposal tax, the residue that remains after recycling is not exempt. The Chief believes that some companies may not be reporting the residue for tax purposes. He also believes that some facilities may be claiming that their waste is being recycled when in fact it is not. He does not have any analysis, however, to support these beliefs. The Chief said that the amount of waste that is actually recycled is one of the major unknowns in determining how much revenue the tax should generate.

Regarding the underreporting or nonreporting of waste, the Chief said that while some taxpayers may be trying to avoid the tax using these means, he does not believe it is a major reason for the shortage. The Chief's belief stems from the fact that only \$7,000 in outstanding payments remains to be collected from the first year of the tax. Concerning potential illegal disposal of wastes the Chief said that while some illegal disposal of



wastes may take place, he does not believe the tax rates of \$12, \$9, or \$2 per ton alone are high enough to cause illegal disposal to avoid the tax.

Because New York has experienced such a significant shortage in its waste-end tax, it is considering a number of alternatives to increase revenue. These alternatives include

- amending the current tax, perhaps by substantially increasing the tax rates;
- discarding the current waste-end tax and considering other taxes, such as a state excise tax on the sale or use of petrochemicals, inorganic raw materials, and petroleum;
- establishing a state tax on the transfer of designated hazardous petroleum substances to or from chemical plants, refineries, and distribution terminals; and
- establishing a tax system combining waste-end and state excise taxes.

The state's Department of Environmental Conservation is in the process of awarding a contract to a consulting firm to develop the financing alternatives needed to increase state revenues.

#### New Hampshire

The New Hampshire Cleanup Fund tax on waste generators has been in existence since June 1981. At that time, the state projected that this tax would produce revenue of \$700,000 annually. In the first 2 years, the tax generated \$79,610 and \$77,950, respectively. The Program Manager for the fund attributed the shortage to an unrealistic projection. The following table compares the projected volumes and collections with the actual volumes and collections.

Comparison of New Hampshire's Annual Projected  
Waste Tonnage and Revenue with Actual Tonnage  
and Revenue Collected for the Tax Years Ending  
June 30, 1982, and June 30, 1983

<u>Projections</u>		<u>Actual collections</u>			
		<u>1st year</u>		<u>2nd year</u>	
<u>Volume</u>	<u>Dollars</u>	<u>Volume</u>	<u>Dollars</u>	<u>Volume</u>	<u>Dollars</u>
(tons)		(tons)		(tons)	
74,000	\$700,000	8,600	\$77,610	8,900	\$79,950

As the table shows, the revenue shortage for each year has been about \$620,000, or about 90 percent of the projection. The actual volumes also fell about 90 percent short of the projection.

The New Hampshire Office of Waste Management Environmentalist who operates the cleanup fund, explained that the \$700,000 projection was based on a 1977 state survey of hazardous waste generated by 394 companies. The survey showed that about 147.8 million pounds of hazardous waste were generated annually.<sup>1</sup> Based on a tax rate of 0.0045 cents per pound, about \$665,000 in revenue would be generated by the tax. The specialist was uncertain how or why the projection was raised to \$700,000. She also said that the waste generation figures are greatly overstated and do not represent a valid basis for projecting the revenue to be collected by the tax. She explained that in 1977 the definition of hazardous waste was extremely vague and that much of the waste reported by the companies was not hazardous.

The Program Manager for the cleanup fund and the Waste Management Environmentalist currently believe, based on an analysis of hazardous waste transportation manifests on file, that underreporting and nonreporting of hazardous waste are not a problem and that the state is collecting about what is expected from the tax. This analysis was performed after the tax had been in place 3 months and showed that the tax could be expected to raise \$75,800 per year. They believe that the results of this analysis are accurate because (1) New Hampshire has no onsite disposal--all waste is disposed of offsite, thereby requiring a manifest, (2) manifests are closely regulated and examined, and (3) New Hampshire has only 214 companies generating more than 100 kilograms of hazardous waste per month.

## California

California has two waste-end taxes--one for generators and one for disposal facilities. Both taxes are assessed only on hazardous waste that is disposed of in or on the land. The tax paid by generators has fallen short of producing the anticipated revenue in each of its first 2 years in operation. The tax paid by disposal facilities has been assessed since 1974, and it has raised the anticipated revenue in every year except 1983.

### Generator tax

The generator tax is designed to raise \$10 million per year, less any unobligated tax revenue from previous years. Neither the Director, Toxic Substances Control Division, nor the Associate Health Program Advisor in the division could explain or document how the \$10 million figure was derived. They explained that the state legislature developed the figure without requesting the division's input. A consultant for the Council for Economic and

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<sup>1</sup>The survey report figures were expressed in gallons and tons. The report showed that 2,823,064 million gallons and 62,193 tons were generated annually. We converted these quantities into pounds. The 2,823,064 million gallons equals about 23.4 million pounds (8.3 pounds per gallon), 62,193 tons equals 124.4 million pounds (2,000 pounds per ton), or a total of 147.8 million pounds.

Environmental Balance, a group representing many California businesses and responsible for providing input to the legislature in developing the \$10 million, said the figure represented the amount the state wanted the tax to generate to pay for hazardous waste cleanup efforts. The consultant said that the figure was arbitrary and could not be documented or substantiated. To attempt to raise the \$10 million, California establishes the tax rates annually, after the taxable volumes have been reported. Generators then pay the tax based on the quantities of waste disposed of during the previous 12 months.

The generator tax has been in existence for 2 years--1981 and 1982. In the first year, the tax generated \$9.2 million, \$800,000 short of the \$10 million anticipated. The Administrator, Hazardous Waste Tax Unit, at the State Board of Equalization--the agency responsible for billing and collecting the tax--attributed this shortage to the state's reducing the tax rate after it was initially established from \$6.52 per ton to \$0.98 per ton for the hazardous waste disposed of by some oil companies. This waste was deemed less hazardous than originally believed, and the tax rate was reduced. The state did not make adjustments to the other tax rates to compensate for this change. Despite the shortage, \$600,000 of the \$9.2 million collected was not spent or obligated.

The generator tax raised \$7.6 million in the second year. This amount represents a \$1.8-million shortage. The state sought to collect only \$9.4 million because it still had \$600,000 in unobligated revenue from the previous year. The Administrator attributed the shortage to generator reporting errors. Some generators understated the amount of their taxable waste by reporting the waste in gallons or pounds instead of tons, or by incorrectly reporting their waste in a lower taxed category. The Administrator indicated that the tax rates will be adjusted to make up the \$1.8-million shortage.

Because the generator tax is assessed after the taxable waste volumes are known, the reasons for revenue shortages differ from the reasons for volume reduction. In the first year, the base tax rate (category B) was \$6.52 per ton based on reported volumes of 3.5 million tons. In the second year, the reported volumes dropped to 2.5 million tons, and the base tax rate was raised to \$9.29. The following table compares the taxable volumes reported by the four tax categories for the first 2 calendar years of the tax.

Comparison of California's Reported  
Taxable Volume of Waste for Calendar Years 1981 and 1982

<u>Category</u>	<u>Tons</u>		<u>Increase/ (decrease)</u>	<u>Percentage increase/ (decrease)</u>
	<u>1981</u>	<u>1982</u>		
A--Federally exempted waste and waste placed into evaporation ponds	1,365,179	1,671,327	306,148	22
B--Hazardous waste	1,231,393	726,015	(505,378)	(41)
C--Extremely hazardous waste	43,991	15,122	(28,869)	(66)
D--Mining waste	<u>840,597</u>	<u>82,432</u>	<u>(758,165)</u>	<u>(90)</u>
Total	<u>3,481,160</u>	<u>2,494,896</u>	<u>(986,174)</u>	<u>(28)</u>

The Administrator of the Hazardous Waste Tax Unit explained that about 717,000 tons (70 percent) of the total decrease was attributable to one mining company's storing its waste for recycling and not disposing of it as it did in 1981. The Administrator, as well as the Director of the Toxic Substances Control Division and the Associate Health Program Advisor in the division, was uncertain of the reason(s) for the remaining decrease of about 269,000 tons. The Administrator said that some of the decrease in category B shows up as an increase in category A because of a change in the law, shifting the waste that oil companies dispose of by deep well injection from category B to category A. Also, some of the oil company's waste was determined not to be as hazardous. He also said that some of the decrease might be caused by an increase in recycling.

Disposer tax

The disposer tax has been in existence since 1974 and is assessed on disposal facilities. Only the first 2,500 tons of waste disposed of is taxed. The rate, initially \$0.60 per ton, was increased to \$1 per ton in November 1977. The rate was again increased to \$4 per ton in July 1982. In July 1983, the rates were increased to the present dual rates of \$6.40 per ton for nonrestricted waste and \$18 per ton for restricted waste.<sup>2</sup> Like the state's generator tax, the amount of revenue state officials had hoped to raise with the disposer tax is not based on a projection. In this case, it is the amount shown in the state's budget needed to operate the hazardous waste management program.

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<sup>2</sup>Restricted wastes are those wastes that the state plans to ban from land disposal.

For the first year (fiscal year 19743), the revenue received amounted to about \$250,000. For fiscal year 1984, the amount received was about \$8 million.

According to the Toxic Substances Control Division Director and the Associate Health Program Advisor in that division, the disposer tax has not raised the revenue anticipated in only one year--fiscal year 1983. The shortage from an anticipated \$6.4 million in revenue amounted to about \$400,000. These officials attributed the shortage to the poor economy in the state that year. They said that four major hazardous waste generators went out of business during this period. They also said that the California legislature has passed a bill allowing the disposer tax rate to be increased in fiscal year 1984 in the event of another shortage.

While the disposer tax has generally raised the anticipated revenue, the Director and the Associate Health Program Advisor indicated that prior to 1981, when the State Board of Equalization assumed responsibility for administering the tax from the Toxic Substances Control Division, there were underreporting and nonreporting problems. According to these officials, these problems have greatly diminished since 1981 because the Board of Equalization has devoted more resources to administering the tax.

We noted that, in July 1982, the month the tax rate was raised to \$4 per ton, taxable tonnage decreased about 28,000 tons--from 141,600 tons to 113,400 tons--and remained at about this level for the next 6 months. We examined the only monthly tonnage data available which covered 1979, 1980, 8 months of 1981, and 1982, to determine if a similar decrease ever occurred. We found that a similar 28,000-ton decrease occurred from October to November 1980 when the tax remained at the same rate. We also found that in April, May, and June of 1983--starting 9 months following the tax increase and tonnage drop--the tonnage reported had regained the level prior to the tax increase. Such historical performance seems to indicate that the taxable tonnage decrease at the time of the tax rate increase may be attributable to factors other than underreporting or nonreporting, such as poor economic conditions.

IMPACT OF TAX ON WASTE MANAGEMENT  
PRACTICES HAS NOT BEEN ASSESSED

In addition to raising revenue, the New York, New Hampshire, and California waste-end taxes were established to encourage more desirable waste management practices. The states do not, however, know how well this latter objective is being accomplished because in some cases they lack pre- and post-tax information. In addition, none of the three states had analyzed available data to determine if changes in waste management practices had occurred. Also, officials in these states believe that CERCLA and RCRA have

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<sup>3</sup>The state fiscal year is July 1 to June 30.

had an effect on hazardous waste management practices. The officials believe that isolating the changes in waste management practices caused by the requirements of these acts from those caused by the tax would be difficult.

### New York

New York employs a variable tax rate to encourage more desirable waste management practices. For example, the tax is \$12 per ton for land disposal of wastes, but only \$2 per ton for wastes incinerated at a waste generator's facility. In addition, recycled wastes are exempt from the tax. The tax became effective in September 1982. Manifests were first required in February 1982, and annual reports from hazardous waste generators describing the type of waste and volumes generated were required for the first time for calendar year 1982. As a result, very little information on types and volume of waste generated or on the treatment, storage, and disposal methods used is available for the period prior to the tax.

The Chief of the New York Bureau of Hazardous Site Control, Department of Environmental Conservation, said that, since the tax was implemented, the Department has not analyzed the manifest and annual report data to determine if hazardous waste management practices have changed because it does not have the resources. He believes, however, that any changes in waste management practices would not solely be the result of the tax. He said that New York taxes alone would not cause large numbers of generators to alter their disposal practices just to avoid the tax. Second, he said that generators who have changed their disposal practices have probably done so to avoid (1) the long-term liability CERCLA placed on them to pay for cleaning up disposal sites and (2) the increased land disposal costs associated with recent safeguards required by RCRA and related EPA and state regulations, such as liners in land disposal facilities and groundwater monitoring devices.

### New Hampshire

New Hampshire employs a flat tax of \$36 per ton on all generators producing more than 300 kilograms of hazardous waste per quarter. New Hampshire encourages recycling, however, by exempting recycled wastes from the tax. In New Hampshire, manifests, annual reports, and the tax all became effective in June 1981. Therefore, no data exist prior to the tax on types and volumes of waste generated or on treatment, storage, and disposal methods used.

The Program Manager for the New Hampshire Cleanup Fund and an Office of Waste Management Environmentalist indicated, as stated previously, that they analyzed the manifests shortly after the tax went into effect to determine if the tax was generating the proper revenue. They said that they routinely compare manifests, annual

reports, and tax returns to check for discrepancies, but they have not analyzed the data specifically to determine if the tax has brought about any changes in disposal practices. The Chief of the Bureau of Hazardous Waste Management believes that some waste generators have shifted to recycling to avoid the tax but that the tax is generally too small to cause a large number of changes just to avoid the tax. The officials, along with New York and California officials, also believe that the increased cost of land disposal is another factor that has caused facilities to change their hazardous waste management practices.

### California

California employs a variable tax rate which ranges from \$18.58 per ton for land disposal of extremely hazardous waste to \$0.09 per ton for certain mining wastes. In addition, hazardous waste treated by incineration or recycling is exempt from the tax. Annual reports have been required only since 1981, when the generator tax became effective. Manifests have been required since 1975--6 years prior to the generator tax and about 1 year after the disposer tax was adopted. However, the state's computerization of the manifest information was not satisfactorily completed until recently and therefore no analysis of these data had been performed. The California Toxic Substances Control Division Director and the Associate Health Program Advisor in the division explained that 1983 waste generation data are now being analyzed for submission to EPA. However, like the New York officials, they did not believe that the effects of the tax can be isolated because increased liability and costs have also caused changes in generators' hazardous waste management practices.

## CHAPTER 3

### STATE AND INDUSTRY VIEWS ON A FEDERAL WASTE-END TAX

Officials in New York, New Hampshire, and California believe that their existing hazardous waste management programs could be adversely affected if the federal government adopts a waste-end tax. They believe the adverse impact would be most severe if the federal tax preempted the states' waste-end taxes because the states could lose an essential source of state hazardous waste cleanup funds. Even if state taxes were not preempted, state officials are also concerned that illegal disposal may increase because the cost of disposal will increase.

Another potential problem state officials cited was the conflicting objectives inherent in a waste-end tax. The waste-end tax is designed to raise revenue and also provide economic incentives for more desirable waste management practices. The more successful the tax is in accomplishing the latter objective, the more difficult it will be to raise revenue. This is so because generators, to avoid or reduce their tax payment, may seek disposal methods that are not taxed or are taxed at a lower rate. State officials in eight other states that we contacted voiced similar views. Their views are included throughout this chapter where appropriate. The representatives of the hazardous waste generating companies and treatment, storage, and disposal facilities had varied opinions on the extent to which a federal waste-end tax would affect their businesses. Some said that such a tax would add costs and hurt their businesses, others said it would have no impact, and some were uncertain of the potential impact.

### PREEMPTION OF STATE TAXES

CERCLA Section 114(c) preempts states from establishing a tax to be used to pay for claims which may be compensated under CERCLA. This section, however, does not prohibit the states' use of general revenue to pay claims. Of the three federal waste-end tax proposals we reviewed, only H.R. 4813 expressly provides that a state may require contributions to funds to compensate for claims also compensable under CERCLA. Thus, as currently written, it would not preempt similar state taxes. The other two proposals, H.R. 2627 and H.R. 3129, do not contain similar provisions.

New York, New Hampshire, and California state officials commented that if their existing waste-end taxes were preempted, they may lose an essential source of funding for their hazardous waste cleanup efforts.

California uses its waste-end tax revenues for inspecting and permitting generators and treatment, storage, and disposal facilities as well as for site cleanup efforts, while New Hampshire and



New York use their revenues primarily for site cleanup. California and New York officials said that if their tax revenues were preempted, they will need to obtain another source of funding. It is uncertain how any preempted revenues could be replaced.

Officials of seven of the other eight states with waste-end taxes that we contacted (Connecticut, Florida, Illinois, Kentucky, Missouri, Ohio, and South Carolina) all echoed the belief that a federal waste-end tax preempting state taxes could eliminate state cleanup and/or regulatory program funds. A Minnesota official said he did not know what impact the federal tax would have on state programs: it would depend on the structure of the tax.

Even if the federal tax adopted does not preempt state taxes, California state officials are concerned about generators being taxed twice. The Director of the California Toxic Substances Control Division, for example, believes that companies would lobby the legislature to repeal the state's tax. New York, New Hampshire, and other state officials voiced concerns about the increased potential for illegal disposal of wastes and the conflicting objectives inherent in waste-end taxes. These problems are discussed below.

#### POTENTIAL FOR ILLEGAL DISPOSAL OF WASTES

Although New York, New Hampshire, and California State officials have not assessed the effect of their waste-end taxes on waste management practices, they believe that a federal waste-end tax could result in increased illegal hazardous waste disposal. The Director of the California Toxic Substances Control Division, after briefly reviewing S. 860 (one of the proposed federal waste end tax schemes), said that the rates appeared high. He was concerned that if federal waste-end tax rates are too high, illegal disposal may increase. The Hazardous Waste Cleanup Fund Program Manager in New Hampshire, as stated previously, also believes that increased disposal costs could lead to illegal disposal. The New York Bureau of Hazardous Site Control Chief said \$75 per ton (one of the proposed federal rates shown in H.R. 2627 and H.R. 3129) was too high. He expressed the firm belief that a federal waste-end tax at this rate, which would significantly increase disposal costs, would probably increase illegal disposal, thus hampering the state's cleanup efforts.

Although we did not ask the other eight states for their views on illegal disposal, an Ohio state official commented that if a federal waste-end tax did not preempt the state's tax, facilities would probably look to lower taxed or nontaxed alternatives, including illegal disposal.

Because state officials were concerned that proposed federal waste-end tax rates were high, we estimated how much these higher rates would increase disposal costs. We selected for analysis the costs of landfilling waste in bulk and drum form, which are common land disposal practices. The following tables contain estimates of the cost increases applicable to H.R. 2627, H.R. 3129, and H.R. 4813, the three federal tax proposals that we reviewed.

Table 1

Estimated Impact of Federal Waste-End Taxes  
on Drum Landfill<sup>a</sup> Disposal Costs  
(per metric ton)

H.R. 2627				
Waste category	Tax rates <sup>b</sup>	Estimated disposal cost per metric ton <sup>c</sup>	Estimated disposal costs with tax	Percentage increase
Extremely hazardous	\$96.54 <sup>d</sup>	\$110-240	\$206.45-336.45	40-88
Highly hazardous	44.09 <sup>d</sup>	110-240	154.09-284.09	18-40
Nontoxic	12.40 <sup>d</sup>	110-240	122.40-252.40	5-11
H.R. 3129				
Toxic	82.67	110-240	192.67-322.67	34-75
Nontoxic	27.56	110-240	137.56-267.56	11-25
H.R. 4813				
Reportable quantity <sup>e</sup>				
1 lb. or less	30	110-240	140-270	13-27
Over 1 lb.	10	110-240	120-250	4-9

<sup>a</sup>Landfilling disposes of waste by burying it under a shallow layer of ground.

<sup>b</sup>Tax rates for H.R. 2627 and H.R. 3129 have been adjusted to represent rates that are applicable to metric tons.

<sup>c</sup>Disposal costs are based on 1982 figures from a Booz-Allen and Hamilton Inc. report, Review of Activities of Major Firms in the Commercial Waste Management Industry: 1982 Update. The disposal costs are not broken down by the waste categories contained in each bill; therefore, the entire range of costs is used for each category.

<sup>d</sup>Figure represents a tax based on an average of the proposed rates, which vary depending on the type of facility used.

<sup>e</sup>EPA is in the process of establishing reportable quantities for hazardous substances and wastes which, when released into the environment, may present substantial danger. Releases are to be reported to the National Response Center.

Table 2

Estimated Impact of Federal Waste-End Taxes  
on Bulk Landfill<sup>a</sup> Disposal Costs  
(per metric ton)

H.R. 2627				
Waste category	Tax rates <sup>b</sup>	Estimated disposal costs per metric ton <sup>c</sup>	Estimated disposal costs price with tax	Percentage increase
Extremely hazardous	\$96.45 <sup>d</sup>	\$33-83	\$129.45-179.45	116-292
Highly hazardous	44.09 <sup>d</sup>	33-83	77.09-127.09	53-134
Nontoxic	12.40 <sup>d</sup>	33.83	45.40- 95.40	15-38
H.R. 3129				
Toxic	82.67	33-83	115.67-165.67	100-251
Nontoxic	27.56	33-83	60.56-110.56	33-84
H.R. 4813				
Reportable quantity <sup>e</sup>				
1 lb. or less	30	33-83	63-113	36-91
Over 1 lb.	10	33-83	43-93	12-30

<sup>a</sup>Landfilling disposes of waste by burying it under a shallow layer of ground.

<sup>b</sup>Tax rates for H.R. 2627 and H.R. 3129 have been adjusted to represent rates that are applicable to metric tons.

<sup>c</sup>Disposal costs are based on 1982 figures from a Booz-Allen and Hamilton Inc. report, Review of Activities of Major Firms in the Commercial Waste Management Industry: 1982 Update. The disposal costs are not broken down by the waste categories contained in each bill; therefore, the entire range of costs is used for each category.

<sup>d</sup>Figure represents a tax based on an average of the proposed rates, which vary depending on the type of facility used.

<sup>e</sup>EPA is in the process of establishing reportable quantities for hazardous substances and wastes which, when released into the environment, may present substantial danger. Releases are to be reported to the National Response Center.

As the tables show, the disposal cost increases vary depending on the proposal, the category of wastes disposed of, and whether the waste is in drums or in bulk form. Although it is difficult to compare the cost increases of the different proposals because of different waste categories stipulated in the proposals, in general, H.R. 4813 appears to represent the lowest overall percent increases in costs. It is also difficult to determine if these cost increases would lead to an increase in illegal waste disposal. It is reasonable to assume, however, that as the cost increases, the incentive to dispose of wastes illegally could increase, particularly under the higher percentage cost increases. Since the increases are the greatest for the most toxic hazardous wastes, the increased incentive for illegal disposal may be greatest for their wastes.

On the other hand, these tables do not include state taxes. If state taxes are preempted, the increase in disposal cost to the taxpayer would be reduced by the amount of the state tax. In this situation, if the existing state tax is more than the federal tax, a decrease rather than an increase in total costs would result. For example, replacing New Hampshire's \$36 per ton tax with a \$25 per ton tax for nontoxic wastes under H.R. 3129 would decrease the cost to the taxpayer by \$11 per ton. If state taxes are not preempted, the federal tax would be in addition to the disposal costs plus any state taxes.

#### CONFLICTING OBJECTIVES

Officials from New York, New Hampshire, and California also discussed the conflicting objectives inherent in a waste-end tax. As indicated previously, the California Toxic Substances Control Division Director explained that if federal waste-end tax rates are too high, or if generators and facilities are taxed twice, taxpayers might shift their waste management practices to lower taxed or nontaxed methods such as recycling. He said that while these shifts may serve to encourage more desirable waste management practices, they may also mean less tax revenue. The Program Manager of the New Hampshire Hazardous Waste Cleanup Fund provided a similar view. According to the Director of the New York Division of Solid and Hazardous Waste and the Chief of the Bureau of Hazardous Site Control, the federal government cannot raise stable revenue while at the same time encouraging alternatives to landfilling such as recycling. They said that a waste-end tax can create economic incentives to reduce waste volumes by changing waste management practices that might be both desirable and undesirable, but this in turn could erode the tax base and reduce tax revenues. They said that the current feedstock tax on raw materials is the best way to raise stable revenue. The two New York officials said that they do not believe the federal government will obtain the needed revenue if it relies solely on a waste-end tax.

We did not ask the other eight states about the problem of conflicting objectives. However, Ohio and Illinois officials

commented on this issue. A unit supervisor for the Ohio Division of Hazardous Waste Materials said that if the federal government replaces the feedstock tax with a waste-end tax, the government will be dealing with an unknown because no one knows how the generators and facilities will react. If they move toward more recycling or reduced waste generation, that will erode the revenue base. He added that the state is still in the early stages of the regulation and control of hazardous wastes and has a great deal more to learn about the industry before making changes.

The Manager for the Illinois Division of Land Pollution Control summarized his views on conflicting objectives by saying that whether the federal government should replace the feedstock tax with a waste-end tax depends on what the government wants to accomplish. If the federal government wants to change waste management practices, a waste-end tax should be implemented. If the government wants to generate revenue, such a tax may not be the best source.

POTENTIAL PAYERS OF A FEDERAL WASTE-END  
TAX HAVE VARIED OPINIONS ON TAX'S IMPACT

Generator and treatment, storage, and disposal facility representatives that we contacted in New York, New Hampshire, or California had various opinions on a federal waste-end tax's impact on their businesses. While some believe that such a tax would hurt their businesses, others commented that it would either not have any impact or were uncertain of its impact.

In New York, we talked to representatives of two hazardous waste generating companies and three treatment, storage, and disposal facilities. The Manager of Regulatory Relations at the General Electric plant in Waterford, New York, believes that a federal waste-end tax would have a significant negative financial impact on General Electric regardless of the preemption issue, but he could not quantify the impact. The Manager of Safety, Health and Environmental Assurance for the Ciba-Geigy Corporation plant in Glens Falls, New York, quantified the impact with the following example. This plant paid almost \$100,000 in New York waste-end taxes for the period September 1982 through August 1983 on about 8,000 tons of hazardous waste. The manager said that the 8,000 tons is low volume because 1982-83 was a recession year. Typically, this company generates approximately 11,500 tons of hazardous waste annually. Under the tax proposed in H.R. 3129, the price per ton for this waste would be \$75. By applying this rate to the 11,500 tons typically generated, the company estimates the federal waste-end tax would cost them \$880,000. The manager considered an \$880,000 waste-end tax payment excessive.

Of the three treatment, storage, and disposal facility representatives we contacted, the Controller for SCA Chemical Services believed that a federal waste-end tax would not have any impact on SCA's business because SCA would simply pass the cost on to the generators. The Chief Financial Officer for CECOS

International and the Environmental Affairs Specialist for Frontier Chemical Company believed a federal waste-end tax would be more equitable, assuming preemption of New York's tax. The latter two representatives explained that the state's waste-end tax puts them at a competitive disadvantage with similar facilities in states that do not levy waste-end taxes. The representative from Frontier Chemical said that the state waste-end tax has caused a decline in Frontier's out-of-state business by as much as one-third, while the CECOS representative commented that a federal waste-end tax without preemption would severely hurt CECOS' business.

In California, we talked to representatives of three hazardous waste generating companies and two treatment, storage, and disposal facilities. The Plant Manager of PGP Industries and the Tax Manager at TOSCO Corporation were uncertain of the tax's impact, while the Manager of Tax Administration for Rockwell International said the tax would not have any impact on Rockwell's business because the company is a large conglomerate. He commented that the tax would be an administrative nuisance but not a major problem. He added, however, that a federal waste-end tax would hurt small generators of hazardous waste whose waste disposal costs are a significant business cost. The Vice President of Environmental Affairs for IT Corporation and the Assistant General Manager for Chemical Waste Management Incorporated, two California treatment, storage, and disposal facilities, believe that a federal waste-end tax would not affect their businesses. They explained that they would simply pass the cost on to the generators.

Since New Hampshire does not have any commercial treatment, storage, and disposal facilities, we talked to representatives from three hazardous waste generating companies to obtain their views on a federal waste-end tax. The Personnel and Safety Manager for Uni Cast Incorporated did not believe such a tax would have much of an effect on the company because its hazardous waste volumes are small. He did say, however, that the feedstock tax should remain because the chemical and petroleum companies generate most of the hazardous waste and, therefore, they should pay for cleanup costs. The Secondary Materials Manager for the Nashua Corporation said that he was not certain about what impact a federal waste-end tax would have other than to raise the cost of doing business. The Senior Coordinator of Environmental Control for Hadco Incorporated strongly believes that a federal waste-end tax would put some companies out of business and would give small generators an incentive to illegally dispose of their wastes. Although this generator is one of New Hampshire's largest and therefore one of the largest state waste-end taxpayers, this representative is not concerned about a federal waste-end tax's impact on his company because he expects EPA to declare Hadco's largest volume of hazardous waste to be nonhazardous.

## CHAPTER 4

### A FEDERAL WASTE-END TAX WILL REQUIRE MORE INFORMATION AND ADDITIONAL REGULATIONS

For the federal waste-end tax or fee proposals that we reviewed, the information needed to make accurate revenue projections, measure changes in waste management practices, and assure compliance with the tax varies because the tax proposals differ in who pays and collects the tax, the taxable activities and wastes, and other factors. However, regardless of the specific proposal examined, more information than is now available will be required. EPA's new biennial report from states and hazardous waste handlers will provide some of the data needed, but changes in the report frequency and data requirements will likely be required to support any waste-end tax enacted. Complicating any assessment of information needs are proposed amendments to RCRA which could increase the number of hazardous waste generators regulated, and proposed EPA changes to the definition of solid waste which may change the number of wastes controlled. Both of these actions could affect the amount and type of information needed.

If enacted, the federal waste-end tax proposals will necessitate that EPA, and in some cases the Internal Revenue Service (IRS), issue implementing regulations. Two of the proposals will also require regulations to categorize wastes by the degree of hazard they pose. Neither IRS nor EPA has estimated the time or cost involved to implement the various proposals, but officials from both agencies noted that the more complicated the tax scheme adopted, the more time consuming and costly it will be to implement and administer.

#### INFORMATION IS NEEDED TO IMPLEMENT AND ADMINISTER A WASTE-END TAX

We analyzed the proposed waste-end taxes contained in H.R. 2627, H.R. 3129, and H.R. 4813 to identify the potential information needs related to making revenue projections, measuring changes in waste management practices, and assuring taxpayer compliance. The information needs vary, particularly with respect to making revenue projections, because the bills vary as to their specific taxable activities and other factors. In general, however, each proposal will require information on the types and quantities of waste generated and the treatment, storage, and disposal methods used. The information that is currently available, however, is either inaccurate or incomplete. Without accurate and complete information, it will be difficult for EPA or IRS to make reliable revenue projections, assess changes in waste management practices which may be brought about because of the tax, or assure compliance with the tax.



The need for accurate and complete information, however, depends on the purposes of the proposals. If, for example, the primary purpose of the tax is to provide financial incentives to encourage desirable waste management practices rather than to collect revenue, the accuracy of revenue projections may not be that important. Also, if the compliance program selected relies heavily on voluntary tax payment, the information needed to cross-check and verify the accuracy and appropriateness of tax payments would be lessened.

The following analysis assumes a need for accurate and complete information because of the potential adverse impact inaccurate revenue projections and subsequent revenue shortages may have on the nation's hazardous waste cleanup effort. We also believe that a strong compliance program, based on identification of potential taxpayers and a way to verify the taxes owed, might help mitigate the potential problem of illegal disposal of wastes to avoid taxes.

#### Information is needed to estimate revenue

H.R. 2627 would place a tax on the disposal, long-term storage, and transportation of hazardous waste. The tax would be paid by the hazardous waste generator and collected by IRS. Revenue projections under H.R. 2627 will require nationwide estimates of the quantity of waste in three different categories to be defined by EPA--extremely hazardous, highly hazardous, and nontoxic. Also, data on the type of disposal or storage facilities to be used for each category of waste, and on the safeguards employed at such facilities (such as double-linings at surface impoundments<sup>1</sup>), will be required because different tax rates would be applied. Estimates of the length of time wastes are stored will also be needed because only wastes stored for more than 1 year would be taxed. Finally, estimates of transport distances by waste category would be needed because different transportation tax rates would apply.

A complicating factor is that this bill requires successive taxation. That is, a tax will be assessed for each taxable transportation, storage, or disposal of hazardous waste, whether or not a tax has previously been paid.

H.R. 3129 would place a tax on the disposal and long-term storage of wastes. This tax is to be paid by the person disposing of the waste and collected by IRS. Revenue projections under H.R. 3129 would require information on the quantities of wastes disposed of or stored over a 1-year period, broken down into toxic and nontoxic categories. Toxic wastes, as defined by the bill,

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<sup>1</sup>Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

are those wastes that are considered hazardous because they have the characteristic of being poisonous rather than because they are ignitable, reactive, or corrosive--the other three characteristics of hazardous waste under EPA's current definitions.

H.R. 4813 would place a fee on the disposal and long-term storage of hazardous substances. The fee will be paid by the owner or operator of the storage or disposal facility and collected by EPA. Like the previous bills, revenue projections under H.R. 4813 will require information on the types and quantities of hazardous substances disposed of, but broken down into two categories: (1) underground injection or other disposal methods and (2) whether the substances were stored for a period of 1 year or more. This bill uses the term "hazardous substances" rather than "hazardous waste." As noted in chapter 1, there are many more hazardous substances, such as asbestos, arsenic, and cadmium, than there are hazardous wastes. It is unclear, however, how much of a difference this would make in projecting revenue because the tax is on the long-term storage or disposal, rather than on the use of a substance. The type of substance is important under this bill because the tax rates charged will depend on the reportable quantity EPA assigns to a substance (i.e., more or less than 1 pound). As required by CERCLA, EPA is now developing regulations to set the specific quantity of release, by substances, that would trigger a report. Until this is done, CERCLA Section 102(b) (42 U.S.C. 9602(b)) governs. This section requires that a release of 1 pound or more of most hazardous substances is to be reported to EPA.

The following chart depicts the information needed for estimating the revenue to be collected under the three proposed federal tax schemes.

Potential Information Needed to  
Estimate Revenues to Be Collected Under  
Three Proposed Federal Waste-End Tax Schemes

<u>Nationwide information needs</u>	<u>Proposed federal tax schemes</u>		
	<u>H.R. 2627</u>	<u>H.R. 3129</u>	<u>H.R. 4813</u>
Data on the quantities of waste disposed of in or on the land by degree-of-hazard categories defined in each proposal	X <sup>a</sup>	X	X
Type and quantity of waste disposed of in new versus old disposal facilities	X		
Type and quantity of waste disposed of in double-lined surface impoundments	X		
Type and quantity of waste stored for more than 1 year	X	X	X
Type and quantity of waste that is transported and the distance transported	X		
Type and quantity of waste disposed of by underground injection			X

<sup>a</sup>X = Needed

The information currently available to EPA falls short of meeting the above detailed requirements for all of the bills because the information is either incomplete or unreliable. EPA has an indication of the number of hazardous waste generators, transporters, and treatment, storage, and disposal facilities and of the types of hazardous waste handled because these handlers are required to notify EPA of their existence and provide this information. Waste quantity data, however, are not part of this notification. In addition, treatment, storage, and disposal facilities are in the process of receiving permits from EPA or from states authorized by EPA to issue such permits. The permitting process should eventually provide EPA with additional information on the types and quantities of wastes handled by these facilities. We pointed out, however, in our September 21, 1983, Interim Report on Inspection, Enforcement and Permitting Activities at Hazardous Waste Facilities (GAO/RCED-83-241) that few permits have been issued and that completing the permitting process could take until 1993.

In addition to the information sources discussed above, EPA has the preliminary results of a national survey of hazardous waste generators and treatment, storage, and disposal facilities

regulated during 1981. The survey indicates that as much as 150 million metric tons of hazardous waste were generated in the United States and its territories during 1981, nearly four times the previous estimate of 40 million metric tons. The survey results, released on August 30, 1983, may be of limited use, however, in making revenue projections because the accuracy of the quantity of wastes handled, an important factor in making revenue projections, is very low. According to the study, the quantity estimates for wastes generated could be off by plus or minus 40 percent at the 67-percent confidence level. The comparable figure for treatment, storage, and disposal facilities could be in error by plus or minus 25 percent at the same confidence level. According to the survey report, this lack of accuracy is attributable to the way the sample was designed and other factors.

### Biennial report

EPA is implementing a biennial reporting requirement for all generators and treatment, storage, and disposal facilities which may provide some of the needed data. These reports will include much of the information needed to make revenue projections, such as the types and quantities of wastes generated and the treatment, storage, and disposal methods used. However, the report requirements will have to be revised if other types of data are to be gathered, such as length of time hazardous wastes are stored, the safeguards employed at disposal facilities, and the amount of transportation of waste involved.

The Deputy Chairman of an EPA task force reviewing CERCLA reauthorization issues (including financing alternatives) agreed that EPA does not currently have enough data to make accurate revenue projections for a waste-end tax. He also agreed that the biennial report will help, but the data requirements and the frequency of reporting may have to be changed depending on the waste-end tax adopted. The EPA specialist responsible for data collection under the first biennial report said that several other factors might limit the biennial report's usefulness. First, changes to the frequency or basic data requirements of the report would require the promulgation of regulations, which could take up to 2 years. Second, the first biennial reports from the states are not due to EPA until September 1984. Third, data reported by the states may include state as well as federally controlled waste, and separating the two may be difficult. Last, differing state and industry interpretations of what data are to be reported will undoubtedly cause problems with the accuracy and completeness of the data reported--particularly for the first biennial report.

### Other matters

The Deputy Chairman of the task force reviewing CERCLA also mentioned two other matters that add uncertainty to any waste-end tax revenue projection. First, proposed amendments to RCRA call for regulating small-quantity hazardous waste generators that are now exempt from regulation. The amendments also call for banning

certain wastes from land disposal. These changes could increase the number of generators to be taxed (by as many as 130,000 according to one EPA-sponsored study), as well as change the disposal methods for some of the taxable wastes. Also, EPA's proposed changes in the definition of wastes could exclude waste burned in commercial and onsite facilities and a wide range of hazardous waste sludges and by-products, thus reducing taxable wastes. Second, the Deputy Chairman said that revenue would almost certainly be reduced if the tax is successful in encouraging low-taxed or nontaxed alternative waste management practices. It would be difficult to predict the magnitude of these shifts in waste management practices and thus the impact on revenue. This topic is discussed below.

Information is needed to  
measure changes in waste  
management practices

All three tax proposals provide financial incentives to encourage desirable waste management practices. Measuring actual changes in waste management practices will require trend information on the actual generation of wastes and on the treatment, storage, and disposal methods used.

The financial incentives provided by the three bills are similar. All three would tax disposal and long-term storage, while not taxing treatment such as recycling and incineration. In addition, the bills provide for taxing the more hazardous wastes at higher rates. H.R. 2627 goes beyond the other two bills, as stated earlier, by providing for varying tax rates based on the extent of transportation of the waste and the extent to which the disposal facility complies with the more stringent safeguards applicable to newer facilities.

The type of information needed to measure how well these incentives are working is similar to the data needed for revenue projections, except here the data would be derived from reports on actual waste generation and the treatment, storage, and disposal methods used. Ideally, such information would include pre- and post-tax data on the types and volumes of waste generated and the waste management practices employed. The more frequent the measurements, the better the trend information. Aggregate data by a state or by EPA region would probably be detailed enough for this purpose.

According to the Deputy Chairman of the task force reviewing CERCLA, EPA currently has little reliable data on trends in waste generation and waste management practices. He said that the new biennial reports require this information, but analysis of the data will not be available until late 1984 or early 1985. Even then, data will be available on only 1 year. If the report remains on a biennial cycle, it could be late 1986 or early 1987 before additional data would be available for comparison. In addition, the potential problems discussed under revenue

projections, such as the mixing of state and federally controlled wastes, could make the results less reliable.

The Deputy Chairman also told us that while the biennial report may help assess changes in waste management practices, the specific cause of the change would be difficult to pinpoint. He said that other factors besides financial incentives could be responsible. One important factor is a growing realization on the part of hazardous waste generators that land disposal of wastes carries a long-term liability. He said this potential liability may influence generators to seek alternatives to land disposal, even though land disposal of wastes would be less costly. Chapter 2 discussed similar observations of state officials.

Information is needed to ensure compliance with the tax

An effective tax compliance program for all three proposals will require identifying potential taxpayers and establishing a way to verify taxpayer-reported quantities of wastes and taxable activities.

If IRS administers the tax, as provided by H.R. 2627 and H.R. 3129, it would first need a list of potential taxpayers, according to an IRS legislative analyst responsible for CERCLA. The analyst said that such a list would be useful in notifying potential taxpayers of their tax liability. This analyst added that any EPA reports showing the taxable quantities of waste and taxable activities for specific taxpayers would also be very useful to IRS to cross-check with data taxpayers report to IRS on their tax returns. Although IRS does not have comparable data for any other excise taxes now being collected, this analyst believes that congressional interest in waste-end taxes could dictate a more thorough compliance program.

The EPA Deputy Chairman of the task force reviewing CERCLA told us that EPA currently could provide IRS with the identity of potential taxpayers, but EPA has little taxpayer-specific information on the types and quantities of wastes handled or other potentially taxable activities. Again, he said that the biennial report could provide such information to compare with tax returns. He added, however, that data requirements and frequency of reporting may have to be revised to meet the specific needs of the tax that is adopted. He agreed that tax compliance cross-checks would require EPA to obtain taxpayer-specific data. He also said that if EPA administered the tax (or fees as provided by H.R. 4813), EPA would have to decide whether the biennial report could be revised and used as a basis for assessing and collecting the fee, or whether separate reports from taxpayers would be required.

The IRS legislative analyst also said that whether or not corroborating data are reported to EPA on the types and quantities of waste handled, it would be necessary for taxpayers to maintain records on their taxable wastes and activities for audit

purposes. Both H.R. 2627 and H.R. 3129 give the Secretary of the Treasury authority to require waste handlers to maintain records and submit reports that the Secretary deems necessary to ensure proper assessment, payment, and collection of the tax. H.R. 4813 provides EPA with similar authority to assess and collect a fee. The current EPA recordkeeping and reporting requirements for generators and treatment, storage, and disposal facilities could form the basis for this information. The specific recordkeeping and reporting requirements would vary, depending on the tax, and would have to be tailored to the specific taxable wastes and taxable activities.

REGULATIONS ARE NEEDED TO  
IMPLEMENT AND ADMINISTER  
A WASTE-END TAX

Any of the waste-end tax proposals if enacted will require additional regulations. The time and cost to implement such regulations will depend on the specific requirements and complexity of the tax adopted.

As noted above, H.R. 2627 calls for EPA regulations by July 31, 1985, which assign hazardous wastes to one of three degree-of-hazard categories--extremely hazardous, highly hazardous, or nontoxic. H.R. 4813 requires EPA to issue regulations that assign reportable quantities to various hazardous substances. Also, as discussed previously, the three bills would give EPA or IRS authority to issue regulations on records or reports to be maintained or submitted by hazardous waste handlers. Finally, implementation of the three bills will require EPA or IRS to issue interpretive and procedural regulations to instruct the taxpayers how to calculate and pay the tax or fee.

The Deputy Chairman of the task force reviewing CERCLA told us that he is uncertain whether EPA can develop the degree-of-hazard regulations called for in H.R. 2627 by the July 31, 1985, deadline. The acting program manager of EPA's ongoing project designed to identify wastes to be banned from land disposal--a process that involves similar degree-of-hazard determinations--told us that it could take from 2 to 3-1/2 years to develop and issue regulations for a fairly simple degree-of-hazard ranking system. The Deputy Chairman also indicated that any legal challenges to the ranking system or to the rankings assigned to specific wastes could further delay the process.

The assignment of reportable quantities to specific wastes called for by H.R. 4813 could take less time because this project is already under way. EPA expects to issue these regulations by May 1985. H.R. 3129 would not require new degree-of-hazard regulations.

As of March 30, 1984, neither EPA nor IRS had developed estimates of how long it would take to issue the needed procedural, recordkeeping, or interpretive regulations for any of

the waste-end tax proposals. An IRS legislative analyst for CERCLA noted, however, that coordination between EPA and IRS is necessary. He said that the more complex the tax, the more coordination will be required. He also said that adequate lead time will be needed to print tax forms, develop computer capability, and notify IRS field offices and potential taxpayers.

Neither EPA nor IRS has estimated the cost to implement a waste-end tax. The IRS senior program analyst for CERCLA activities could not attach a dollar figure to the potential costs of implementation, but he did say that the cost of collecting the tax would be small. He noted that, for the most part, collecting taxes involves printing and mailing the forms and processing the returns at costs that are not considered significant. He said that the compliance effort would produce the more significant costs of a waste-end tax and that these costs would depend on the extent of compliance effort deemed necessary.



LISTING OF STATE, GENERATOR, AND TREATMENT, STORAGE,  
AND DISPOSAL FACILITY OFFICIALS CITED IN THIS REPORT

STATE OFFICIALS

California	<p>Director, Toxic Substances Control Division Department of Health Services</p> <p>Associate Health Program Advisor Toxic Substances Control Division Department of Health Services</p> <p>Administrator, Hazardous Waste Tax Unit, State Board of Equalization</p> <p>Senior Tax Examiner, Hazardous Waste Tax Unit State Board of Equalization</p>
New Hampshire	<p>Program Manager, Hazardous Waste Cleanup Fund Division of Public Health Services Office of Waste Management</p> <p>Environmentalist, Hazardous Waste Cleanup Fund Office of Waste Management</p> <p>Chief, Bureau of Hazardous Waste Management Division of Public Health Services</p>
New York	<p>Director, Division of Solid and Hazardous Waste Department of Environmental Conservation</p> <p>Chief, Bureau of Hazardous Site Control Division of Solid and Hazardous Waste Department of Environmental Conservation</p>
Connecticut	<p>Director, Hazardous Waste Management Unit</p>
Florida	<p>Environmental Specialist, Department of Environmental Regulation</p>
Kentucky	<p>Manager, Permits Review Branch Division of Waste Management Department of Natural Resources and Environmental Protection</p>
Illinois	<p>Manager, Division of Land Pollution Control</p>
Minnesota	<p>Assistant Director, Pollution Control Agency Division of Solid and Hazardous Waste</p>
Missouri	<p>Environmental Specialist, Waste Management Program</p>

Department of Natural Resources

Ohio Unit Supervisor, Division of Hazardous  
Materials  
Ohio Environmental Protection Agency

South Carolina Administrative Assistant, Bureau of Solid  
and Hazardous Waste Management  
Department of Health and Environmental  
Control

GENERATOR OFFICIALS

California Plant Manager, PGP Industries

Manager, Tax Administration  
Rockwell International

Tax Manager, TOSCO Corporation

New Hampshire Senior Coordinator, Environmental Control  
Hadco Incorporated

Secondary Materials Manager  
Nashua Corporation

Personnel and Safety Manager  
Uni Cast Incorporated

New York Manager of Safety, Health and Environmental  
Assurance, Ciba-Geigy Corporation

Manager, Regulatory Relations  
General Electric

TREATMENT, STORAGE, AND DISPOSAL FACILITY OFFICIALS

California Vice President, Environmental Affairs  
IT Corporation

Assistant General Manager, Chemical Waste  
Management Incorporated

New York Chief Financial Officer, CECOS International

Environmental Affairs Specialist  
Frontier Chemical Company

Controller, SCA Chemical Services

SUMMARY OF CALIFORNIAHAZARDOUS SUBSTANCE ACCOUNT

Type of tax: Degree-of-hazard.

Effective date of tax: September 1981.

Who pays: Persons who dispose of hazardous wastes in and on the land.

Who collects: The California State Board of Equalization. The Department of Health Services is a technical consultant to the Board of Equalization.

When paid: Annually.

Tax rates: The tax rate is adjusted each year on the basis of the existing unobligated balance and tonnage reported so that \$10 million will be available for expenditure in each fiscal year. This rate is determined by a formula which establishes the base rate. The current base rate is \$9.29 per ton. Hazardous waste is divided into four categories with different rates. One rate is the base rate. The other three rates are percentages of the base rate as follows: generators of waste from the extraction, beneficiation, and processing of ores and minerals who pay 1 percent of the base rate, or \$0.09 per ton; generators exempt from EPA regulations who pay 15 percent of the base rate, or \$1.39 per ton; generators of extremely hazardous waste who pay two times the base rate, or \$18.58 per ton. All other waste generators pay the base rate of \$9.29 per ton. The base rate was \$6.52 per ton the first year of the tax.

Use of tax revenue: To fund the cleanup of abandoned hazardous waste sites and the state's share of the federal CERCLA fund. It is also used to compensate persons for out-of-pocket medical expenses and lost wages due to injuries from hazardous waste exposure.

Compliance methods: Board of Equalization sends followup letters to delinquent taxpayers and visits firms to verify reported waste disposal volumes with the firms' records.

Penalties: Failure to file can result in a civil penalty not to exceed \$500 per day for each day the violation continues. In addition, any person who knowingly fails to file shall, upon conviction, be punished by a fine of not more than \$25,000 for each day the violation continues or by imprisonment for a period not to exceed 1 year or both.

SUMMARY OF CALIFORNIAHAZARDOUS WASTE CONTROL ACCOUNT

Type of tax: Degree-of-hazard based on state definition of restricted and nonrestricted waste.

Effective date of tax: 1974.

Who pays: Operators of land disposal facilities who dispose of waste in or on the land.

Who collects: The California State Board of Equalization. The Department of Health Services is a technical consultant to the Board of Equalization on the tax.

When paid: Monthly.

Tax rates: The fees are computed per ton, for the first 2,500 tons per month of hazardous waste received from each specific site of each specific generator of hazardous waste. The fees for site disposal are \$6.40 per ton for nonrestricted waste and \$18 per ton for restricted waste. Restricted waste refers to hazardous waste, such as waste containing halogenated organic compounds, which soon may be banned from landfill. Unrestricted waste refers to all other hazardous waste. The tax rates have changed four times since 1974. Single rates were \$0.60 per ton until November 1977, \$1 per ton until July 1982, and \$4 per ton until July 1983, when the present dual rates were established.

Use of tax revenue: To fund the state's hazardous waste regulatory program.

Compliance methods: Board of Equalization sends followup letters to delinquent taxpayers and visits firms to verify reported waste disposal volumes with the firms' records.

Penalties: A 10-percent penalty is assessed against delinquent taxpayers or those who fail to file. If this assessment is not paid or a portion is not paid on the date prescribed, 11 percent annual interest on the unpaid portion is added from the date prescribed until payment is actually made.

SUMMARY OF NEW YORKSTATE SUPERFUND

Type of tax: Based on the disposal method.

Effective date of tax: September 1982.

Who pays: Generators of hazardous waste and owners and operators of hazardous waste treatment, storage, and disposal facilities.

Who collects: New York Department of Taxation and Finance. New York Department of Environmental Conservation is a technical consultant to the Department of Taxation and Finance.

When paid: Quarterly.

Tax rates: The tax is assessed according to the method of disposal chosen. The tax rates are based on a sliding scale to encourage relatively more desirable disposal methods:

- \$12/ton for hazardous waste disposed of in a landfill either onsite or offsite;
- \$9/ton for hazardous waste treated or disposed of offsite, excluding disposal in a landfill;
- \$2/ton for hazardous waste incinerated onsite.

No tax is imposed if the tax liability amounts to \$15 or less per quarter. Waste that is recycled and waste generated from the cleanup of an inactive waste site are exempt. The residue from recycled waste is taxable.

Use of tax revenue: To fund the cleanup of inactive hazardous waste sites, emergency and spill response, investigations of inactive hazardous waste disposal sites, and the state's share of the federal Superfund.

Compliance methods: Department of Taxation and Finance sends follow-up letters to delinquent taxpayers or those who underpay their tax. Department of Environmental Conservation compares a computerized listing of manifest data with a computerized listing of tax

returns. A manual examination of the individual documents is made if the comparison of the computerized listings discloses a discrepancy.

**Penalties:**

Department of Taxation and Finance estimates the tax liability and issues an assessment against those who fail to file. A penalty of 15 percent is added to this assessment. If this assessment or a portion is not paid on the date prescribed, 10 percent annual interest on the unpaid portion is added from the date prescribed for payment until payment is actually made.

SUMMARY OF NEW HAMPSHIRECLEANUP FUND

Type of tax: Single rate.

Effective date of tax: June 1981.

Who pays: Generators of hazardous wastes.

Who collects: New Hampshire Office of Waste Management, Division of Public Health Services.

When paid: Quarterly.

Tax rates: All generators of 300 kilograms or more of hazardous waste in a 3-month period. A fee of \$0.04 per kilogram (\$0.18 per pound or \$36 per ton) is assessed on the net weight of hazardous waste reported during the quarter. The minimum quarterly payment is \$50, the maximum is \$6,000. Recycled waste is exempt from taxation. The initial tax rate was \$0.01 per kilogram (\$0.0045 per pound or \$9 per ton) and was changed to the current rate in July 1983.

Use of tax revenues: To pay for administrative costs associated with the cleanup fund; to fund a hazardous waste facility siting program; to provide for containment and cleanup of sites where hazardous waste or materials have been stored or disposed of, including state's share of federal Superfund.

Compliance methods: Office of Waste Management manually compares the volume of waste disposed on the quarterly tax returns against the manifest and annual generator reports.

Penalties: Violator is guilty of a misdemeanor. Each day of violation constitutes a separate violation and shall be punishable by a fine not to exceed \$100 per day.



SUMMARIES OF PROPOSED FEDERAL WASTE-END TAX BILLS

H.R. 2627  
(As of April 20, 1983)

Who pays: Generator of the waste, regardless of who has physical control of the waste. A generator is any person whose act or process produces a hazardous waste or first causes a hazardous waste to be subject to the Solid Waste Disposal Act, except that "generator" does not include a government agency whose act causes a hazardous waste to be subject to the Solid Waste Disposal Act (42 U.S.C. 690) regulations solely by reason of a removal action under CERCLA. Small-quantity generators as defined by RCRA (currently less than 1,000 kilograms of hazardous waste generated per month) are exempted.

Who collects: Secretary of the Treasury.

Activities taxed and tax rate: Disposal

\$100 a ton for extremely hazardous waste in other than new facility.  
 \$75 a ton for extremely hazardous waste in a new disposal facility.  
 \$50 a ton for highly hazardous waste in other than a new facility.  
 \$30 a ton for highly hazardous waste in a new disposal facility (other than a double-lined surface impoundment).  
 \$20 a ton for highly hazardous waste in a double-lined surface impoundment.  
 \$12.50 a ton for nontoxic waste in other than a new disposal facility.  
 \$10 a ton for nontoxic waste in a new waste disposal facility.

Storage (over 1 year)

\$50 a ton for extremely hazardous waste.  
 \$20 a ton for highly hazardous waste.  
 \$10 a ton for nontoxic hazardous waste.

Transportation

\$5 a ton per 100 miles for extremely hazardous waste.

\$2.50 a ton per 100 miles for highly hazardous waste.

\$0.50 a ton per 100 miles for nontoxic hazardous waste.

These rates apply through September 30, 1990. From October 1, 1990, through September 30, 1995, these rates double.

Purpose of the tax bill: To reauthorize and expand the Hazardous Substance Response Trust Fund.

Effective date: October 1, 1985.

H.R. 3129  
(As of May 24, 1983)

Who pays: Person disposing of the waste. Hazardous waste produced by small quantity generators (currently defined by RCRA as generating less than 1,000 kilograms of hazardous waste per month) is not taxed.

Who collects: Secretary of the Treasury.

Activities taxed and tax rate: Disposal

\$75 a ton for toxic waste.  
\$25 a ton for nontoxic waste.

Storage (over 1 year)

\$20 a ton for toxic waste.  
\$10 a ton for nontoxic waste.  
These rates apply through September 30, 1990.  
From October 1, 1990, through September 30, 1995, these rates double.

Purpose of the tax bill:

- 1) To reauthorize CERCLA at a level sufficient to provide for the elimination of hazardous waste sites as a threat to public health and the environment.
- 2) To establish a waste fee system which will fund CERCLA and establish an economic incentive for the reduction and recycling of hazardous waste and other alternatives to land disposal and dispersal of hazardous waste.
- 3) To provide the states with sufficient resources to implement their primary responsibilities under the Solid Waste Disposal Act and CERCLA.

Effective date: October 1, 1985.

H.R. 4813  
(As of February 9, 1984)

**Who pays:** The owner or operator of the storage or disposal facility. In the case of an underground injection well, the disposer will pay the fee.

**Who collects:** EPA.

**Activities taxed and tax rate:** Disposal/long-term storage  
\$30 a ton for reportable quantities of 1 pound or less disposed of other than by underground injection.  
\$15 a ton for reportable quantities of 1 pound or less disposed of by underground injection.  
\$10 a ton for reportable quantities of more than 1 pound disposed of other than by underground injection.  
\$5 a ton for reportable quantities of more than 1 pound disposed of by underground injection.

**Purpose of the tax bill:** To provide funds for the cleanup of hazardous waste sites, medical and relocation expenses, costs related to natural resource damage, and other related purposes.

**Effective date:** January 1, 1987.

SUMMARY OF WASTE-END TAX SYSTEMS USED BY EIGHTADDITIONAL STATES CONTACTED

<u>State</u>	<u>Tax description</u>	<u>Effective date of tax</u>	<u>Purpose of tax</u>	<u>When tax paid</u>	<u>Who collects the tax</u>
Connecticut	Tax is paid by generators waste. Tax rates is \$0.04/gal., \$0.005/lb., or \$8/ cu. yd. Exempted from the tax is any generator whose tax is \$25 or less per year.	July 1982	Raise revenue for the Superfund match and hazardous waste cleanup	Quarterly	Department of Revenue Services
Ohio	Tax is on commercial disposal facilities only. The rate is 6 percent of each charge the facility makes for hazardous waste disposal. Only land disposal is taxed.	April 1980	Fund the state's hazardous waste regulatory program	Monthly	Ohio Environmental Protection Agency
Illinois	Tax is on commercial disposal facilities at rate of \$0.01/gal. or \$2.02/cu. yd. Specified hazardous waste are exempt from tax.	April 1980	Raise revenue to fund the cleanup of hazardous waste sites	Quarterly	Illinois Environmental Protection Agency
Florida	Tax is on offsite disposing generators only. Tax was 2 percent of the waste disposal price paid by the generator. Exempted from the tax were disposal facilities, government facilities, and recyclers.	October 1981 (Tax ended <sup>a</sup> July 1983)	Match for federal Superfund  Raise revenue to clean up abandoned hazardous waste sites	Monthly at first, later quarterly	Department of Revenue

<sup>a</sup>Tax was repealed as it was considered too costly to administer. In July 1983, a new statute was passed imposing a 3-percent tax on owners/operators of disposal facilities. Revenue is payable to the local government and is to be used to cover the local government's costs of having the facility.

(Continued)

<u>State</u>	<u>Tax description</u>	<u>Effective date of tax</u>	<u>Purpose of tax</u>	<u>When tax paid</u>	<u>Who collects the tax</u>
Kentucky	Tax is on generators only, ranging from \$0.01/gal and \$1/cu. yard if the waste is treated to \$0.05/gal. and \$2.50/cu. yd. if untreated. Tax rate was \$0.02/gal. until 1983 when it changed to the present rate. (The tax law requires that in 1984, the tax will shift to disposal facilities only. This would be a permanent shift from generators.)	July 1980	Raise revenue for hazardous waste cleanup  Encourage recycling and discourage untreated hazardous waste disposal	Quarterly	Department of Revenue
South Carolina	Tax is on generators who dispose of waste by land disposal at rates of \$5/ton for instate waste and \$7.50/ton for out-of-state waste. Only land disposal is taxed.	June 1980	Raise revenue for the cleanup of uncontrolled hazardous waste sites	Quarterly	Department of Health and Environmental Control
Minnesota	Tax is on generators, with rates of \$32/cu. yd. or \$0.32/gal. for untreated landfilled waste, \$16/cu. yd. or \$0.16/gal. for partially treated, land filled waste; and \$8/cu. yd. or \$0.08/gal. for fully treated, landfilled waste. Small-quantity generators can be exempted.	July 1983	Raise revenue to operate the state's hazardous waste regulatory program.	Annually <sup>b</sup>	Department of Revenue

<sup>b</sup>Generators whose estimated tax liability is greater than \$1,000 must make quarterly payments.



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