THE ENVIRONMENTAL PROTECTION AGENCY: OVERVIEW OF THE PROPOSED 1984 BUDGET

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PREFACE

This paper analyzes the Environmental Protection Agency's 1984 budget request for five programs: water quality, air quality, toxic substances, hazardous waste, and superfund. The report was prepared at the request of Senators Patrick Leahy and Slade Gorton, and Representatives Howard Wolpe and Claudine Schneider. In keeping with the mandate of the Congressional Budget Office (CBO) to provide objective and impartial analysis, this paper contains no recommendations.

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SUMMARY AND INTRODUCTION

This paper contains a brief analysis of the President's 1984 budget request for the Environmental Protection Agency (EPA), submitted in January 1983. The analysis concentrates on four major programs within the EPA operating budget: water quality, air quality, hazardous waste, and toxic substances. It also examines budget trends in the Superfund program, which is not part of EPA's operating budget. 1/

METHODOLOGY

All projected and historical budget figures presented in this paper were obtained from the EPA Appropriations Justification documents submitted for fiscal years 1983 and 1984. Budget figures from 1981 and 1982 depict actual obligations, while figures for 1983 and 1984 represent anticipated budget authority. 2/ While budget obligations and budget authority may differ in any given year—depending on the amount of funds carried over from the previous year and those deferred to the next—they are comparable in most of EPA's operating programs, since obligations for any given year tend to approximate appropriations for that year.

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1. EPA's operating budget covers 17 activities, including air and water quality, drinking water, hazardous waste, pesticides, radiation, noise, interdisciplinary, and energy programs. The hazardous substance response trust fund (Superfund) and the construction grants programs are not considered part of the agency's operating program.

2. Budget authority allows the agency to enter into obligations that will result in immediate or future outlays involving federal government funds, but does not include authority to insure or guarantee the repayment of indebtedness. The basic forms of budget authority are appropriations, authority to borrow, and contract authority. Obligations indicate the amounts of orders placed, contracts awarded, services received, and similar transactions during a given period that require payments during the same or a future period. Such amounts include outlays for which obligations had not been previously recorded and actual outlays to liquidate those obligations.

Throughout this paper budget levels are generally cited (unless otherwise indicated) in terms of nominal dollars (not adjusted for inflation); however, percent changes from year to year are expressed in real terms, which are, adjusted for inflation. All figures were adjusted using historical and projected gross national product (GNP) deflators consistent with the forecast contained in CBO's February 1983 economic report. 3/

Two types of comparisons are made in this paper. The immediate budget changes are shown by comparing the 1984 request with the 1983 estimated budget authority. For longer-term trends, the 1984 request is compared with 1981 spending levels.

OVERVIEW OF THE EPA BUDGET

The total EPA budget request for 1984 in current dollars is $3.7 billion, including $2.4 billion in funds for construction of publicly owned treatment works (the construction grants program), $0.3 billion in funds for emergency hazardous waste cleanup (Superfund), and roughly $0.9 billion for operating expenses. Operating expenses include most of the funds (including salaries and expenses and money for outside contracts) for the traditional programs designed to protect the environment. Four of these programs are examined in this study: air quality, water quality, hazardous waste, and toxic substances. Air quality and water quality are among the oldest programs at EPA, while hazardous waste and toxics are among the newest.

The 1984 combined budget request for the four operating programs analyzed here is 19 percent lower in real terms than the 1983 appropriation (see Table 1). The largest decrease (33 percent) will occur in the water quality program, while the smallest (9 percent) is proposed for the toxics program. In contrast to these operating budget changes, the 1984 budget request for Superfund is over 40 percent higher than the 1983 appropriation.

Compared with the actual obligations in 1981, the 1984 budget request for each program indicates substantial real reductions in funds over the four-year period. The 1984 request will be roughly 44 percent lower in real terms than the 1981 funding level. Similarly, full-time employment will be significantly reduced: 29 percent fewer full-time employees will be supported in 1984 as compared with 1981.

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3. See Congressional Budget Office, The Outlook for Economic Recovery (February 1983), and Baseline Budget Projections for Fiscal Years 1984-1988 (February 1983).

TABLE 1. BUDGET AND EMPLOYMENT TRENDS FOR FOUR EPA OPERATING PROGRAMS, 1981-1984 (By fiscal year)

	Actual Obligations		Budget Authority		Percent Change	
	1981	1982	1983 (Estimated)	1984 (Requested)	1983-1984	1981-1984
			Millions of Dollars			
Nominal Dollars, Total	789	674	614	519	-16	-34
Constant 1982 Dollars						
Water Quality	341	251	207	138	-33	-59
Air Quality	252	230	204	175	-14	-31
Hazardous Waste	151	111	112	100	-10	-34
Toxics	100	82	67	61	-9	-40
Total	844	674	590	474	-19	-44
			Permanent Full-Time Employees			
Water Quality	2,781	2,273	1,953	1,663	-15	-40
Air Quality	1,754	1,576	1,375	1,351	-2	-23
Hazardous Waste	726	586	643	626	-3	-14
Toxics	716	634	627	606	-3	-15
Total	5,977	5,069	4,598	4,246	-8	-29

Source: Congressional Budget Office, based on data obtained from EPA.

Note: Percent changes were calculated from annual budget figures before rounding and, therefore, represent actual differences. Budget figures in the table have been rounded to the nearest million and may not produce the same percent differences.

The budget for the EPA operating programs can also be viewed in terms of three key activities common to the four programs: abatement and control, enforcement, and research and development. In 1984, the abatement and control activity will receive the greatest real budget reduction—46 percent less funds compared to 1981. The research and development activity will receive the smallest reduction—38 percent less funds compared to 1981. These trends are shown in Table 2.

HIGHLIGHTS OF THE 1984 BUDGET REQUEST

Two trends present in all four programs characterize EPA's operating budget request for 1984. One is the further decrease in federal support of state programs; the other is a continued shift in research and development priorities from the long-term studies of health and environmental effects of pollutants to the immediate needs of standards setting.

In each of the four programs, the 1984 EPA budget request further reduces federal assistance to state environmental programs while anticipating increases in state responsibility. In aggregate terms, federal funds currently provide about 46 percent of state water quality funds, 45 percent of state air quality funds, and about 69 percent of state hazardous waste program funds. In 1984, federal grants to these areas will fall roughly 28 percent in real terms from 1983 levels, and 44 percent in real terms from 1981 levels (see Table 3). Between 1981 and 1984, federal support to state water quality programs will fall from $270 million to $127 million, air quality grants will fall from $96 million to $64 million, and hazardous waste grants will fall from $42 million to $39 million in real terms. Last year, in a survey by the National Governors Association, only a small number of states indicated they would be able to compensate for the lost federal support in 1983 in the face of their own severe financial constraints. 4/ They generally reported that the lower state budgets would contribute to delays in issuing environmental permits, hinder delegation of greater program responsibility to the states, and discourage development and maintenance of innovative programs that require staff resources. Further budget cuts in this area would doubtless be seen as exacerbating this problem.

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4. National Governors Association, State of the States: Management of Environmental Programs in the 1980s, June 1982.

TABLE 2. TOTAL BUDGET AND EMPLOYMENT TRENDS IN THREE KEY ACTIVITIES WITHIN FOUR EPA OPERATING PROGRAMS, 1981-1984 (By fiscal year)

	Actual Obligations		Budget Authority		Percent Change	
	1981	1982	1983 (Estimated)	1984 (Requested)	1983-1984	1981-1984
			Millions of Dollars			
Nominal Dollars, Total	789	674	614	519	-16	-34
Constant 1982 Dollars						
Abatement and control	584	426	397	313	-21	-46
Enforcement	82	68	49	50	+4	-39
Research and Development	178	180	144	111	-23	-38
Total	844	674	590	474	-19	-44
			Permanent Full- Time Employees			
Abatement and Control	3,364	2,761	2,663	2,445	-8	-27
Enforcement	1,513	1,307	1,011	990	-2	-35
Research and Development	1,100	1,001	924	811	-12	-26
Total	5,977	5,069	4,598	4,246	-8	-29

Source: Congressional Budget Office, based on data obtained from EPA.

Note: Percent changes were calculated from annual budget figures before rounding and, therefore, represent actual differences. Budget figures in the table have been rounded to the nearest million and may not produce the same percent differences.

TABLE 3. CHANGES IN FEDERAL RESOURCE ASSISTANCE TO STATES UNDER THE AIR, WATER, AND HAZARDOUS WASTE PROGRAMS, 1981-1984
(By fiscal year, in millions of dollars)

	Actual Obligations		Budget Authority		Percent Change	
	1981	1982	1983 (Estimated)	1984 (Requested)	1983-1984	1981-1984
Nominal Dollars, Total	383	231	335	252	-22	-38
Constant 1982 Dollars						
Water Quality	270	101	198	127	-36	-53
Air Quality	96	88	81	64	-21	-33
Hazardous Waste	42	42	42	39	-9	-8
Total	408	231	321	230	-25	-47

Source: Congressional Budget Office, based on data obtained from EPA.

With regard to research and development, the 1984 budget request maintains in-house scientific assessment capabilities to support standards development, while it reduces outside contracting funds used to support long-term health research. This shift, which began in fiscal year 1983, accommodates budget reductions (38 percent less in real funds for research and development in 1984 compared with 1981) while maintaining efforts needed to meet immediate regulatory deadlines. Between 1981 and 1984, agency salaries and expenses for research will have been reduced 22 percent in real terms, while extramural funds (typically supporting long-term research) will have been reduced 48 percent (see Table 4). The research needs of near-term standards development may be served, but the reduction in long-term basic research may hinder future standards development and slow the accumulation of information on health effects of environmental pollutants.

TABLE 4. TRENDS IN THE RESEARCH AND DEVELOPMENT BUDGET FOR THE AIR QUALITY, WATER QUALITY, HAZARDOUS WASTE, AND TOXICS PROGRAMS, 1981-1984 (By fiscal year, in millions of dollars)

	Actual Obligations		Budget Authority		Percent Change	
	1981	1982	1983 (Estimated)	1984 (Requested)	1983-1984	1981-1984
Nominal Dollars, Total	168	180	150	122	-19	-27
Constant 1982 Dollars						
Salaries and Expenses	68	65	69	54	-22	-22
Extramural Funds	110	115	75	57	-24	-48
Total	178	180	144	111	-23	-38

Source: Congressional Budget Office, based on data obtained from EPA.

WATER QUALITY

Water quality is currently the second largest regulatory program in EPA's operating budget although it typically has been the largest in previous years. Obligations for this program reached a peak of $387 million in 1979 (in nominal dollars), more than double the EPA 1984 budget estimate of $151 million. This 1984 water quality budget—representing a 33 percent decline in real terms from the 1983 level—would involve a substantial reduction in research and abatement and control activities, and a significant increase in the responsibilities of individual states in developing water quality programs. In general, the reduction in EPA's water quality budget results because the agency is nearing completion of its statutory responsibilities for setting discharge standards. In addition, budget cuts are consonant with the shifting of program administration from EPA to the states. It is unclear, however, whether the states will finance water quality activities in the absence of federal funding (especially in the areas of basic and applied research).

BACKGROUND

Water pollution arises from numerous sources, notably industrial and municipal discharges and natural drainage from farmland, forests, and developed areas. Among the most widespread pollutants observed by state officials who monitor water quality are high levels of nutrients, bacterial pollution, high concentrations of suspended sediment, and materials that deplete oxygen in streams. 5/ More recently, concern has increased over toxic pollutants in surface waters and contamination of groundwater by conventional pollutants and toxic substances.

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5. Environmental Quality: The Ninth Annual Report of the Council on Environmental Quality (December 1978), p. 91.

Congressional Mandate

The history of Congressional action addressing water pollution problems begins with the Federal Water Pollution Control Act of 1948. 6/ Major changes followed throughout the 1950s and 1960s. The current program, however, results primarily from the Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500) and the Clean Water Act of 1977 (Public Law 95-217). These acts established a "zero discharge" goal by 1985 and an interim water quality goal of "fishable" and "swimmable" waters by July 1, 1983.

The 1972 legislation required EPA to develop limitations for industrial and municipal discharges into the nation's waters. Direct industrial discharges were to be controlled utilizing the "best practicable control technology currently available" (BPT) by July 1, 1977, and the stricter standard of "best available technology economically achievable" (BAT) by July 1, 1983. Discharges from new sources were to be regulated by new source performance standards (NSPS) using the "best available demonstrated control technology." Industrial discharges into municipal sewage systems were to be regulated through "pretreatment guidelines." They were to be designed to prevent the discharge of untreated pollutants into publicly owned treatment works so as not to strain their capacity.

Municipal sewage discharges were to receive "secondary treatment" (as defined by EPA) by July 1, 1977, and "best practicable waste treatment technology" (BPT) by July 1, 1983. In order to assist local governments in meeting these requirements, the 1972 amendments greatly increased the amount of federal aid—$18 billion in nominal dollars was authorized over a three-year period—for constructing municipal wastewater collection and treatment systems. The 1972 amendments set the federal share at 75 percent of total planning, design, and construction costs.

The major change of the Clean Water Act of 1977 was to specify different standards for toxic and conventional pollutants, a distinction not made in the 1972 act. The 1977 act required EPA to develop industry effluent limits based on "best available technology economically achievable" (BAT) for control of the 65 classes of toxic priority pollutants referred to in the act. For conventional pollutants, BAT was replaced by "best conventional pollution control technology" (BCT), and the deadline was extended to

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6. Additional information about the history of Congressional action can be found in David Harrison, Jr., and Robert Leone, Federal Water Pollution Control Policy, Working Paper Number 12 (American Enterprise Institute, November 18, 1981), and Environmental Quality: The Sixth Annual Report of the Council on Environmental Quality (December 1975).

1984. BCT was to be as strict as the "best practicable control technology" (BPT), but no more strict than BAT.

Finally, to enforce all these standards, a system of permits—the National Pollution Discharge Elimination System (NPDES)—was established for all dischargers. EPA would issue and enforce such permits based on the appropriate standard until such time as the states received federal authorization to administer the program. By 1983, 35 states had a fully delegated NPDES program.

In summary, EPA is required to set three types of effluent limitation standards for industry: "best practicable technology" (BPT) for interim control, "best available technology" (BAT) for toxic pollutants, and "best conventional technology" (BCT) for conventional pollutants. These standards are to be enforced through the issuance of permits to individual point sources. Finally, EPA is required to set new source performance standards (NSPS) for direct industrial discharges and two types of pretreatment standards for industrial discharges into municipal treatment works—one for existing discharges and one for new sources.

Program Accomplishments

EPA promulgates effluent limitations, performance standards, and pretreatment guidelines for an entire industry or subcategory of an industry. Either the states or EPA then issue NPDES permits to individual dischargers within an industry to enforce the standards.

The 1972 act specified dates by which EPA was required to set these standards and guidelines. Because the agency was unable to meet these deadlines, several environmental groups sued EPA resulting in a Settlement Agreement that specified new deadlines (NRDC v. Train, 1976). The 1977 act incorporated several elements of the Settlement Agreement and established BCT for conventional pollutants, BAT for toxic pollutants, and redirected NSPS and pretreatment standards toward toxic pollutant controls. However, the agency was unable to meet these new promulgation deadlines.

An August 1982 court decision set new deadlines, and EPA now claims to be on schedule, issuing all guidelines on time. In all, EPA is responsible

for issuing standards for 28 industrial categories 7/ By the end of December 1982, EPA had proposed effluent limitations for 21 industrial categories and promulgated regulations for 12. However, not all of the six types of regulations were addressed for each industry. Of the 12 industries, BPT was addressed for 10; BAT was addressed for all 12, BCT was covered by 3, NSPS were issued for 11, and pretreatment guidelines for both existing and new sources were issued for 8 industrial categories.

Other program accomplishments have occurred at the state level. National Pollutant Discharge Elimination System (NPDES) permits are issued to industrial and municipal dischargers by an EPA regional office or by a state if permitting authority has been delegated. Thirty-four states and one territory currently have authority to issue permits. Approximately 66,000 NPDES permits have been issued to dischargers, of which EPA is reponsible for about 14,000 and the states for 52,000.

One of the major 1982 program goals according to EPA was the promulgation of effluent limitations for "the majority of the industries cited in the Clean Water Act . . . by the close of 1982." This has not happened—regulations were promulgated for only 12 of the 28 industrial categories. However, the EPA promulgated guidelines for 2 additional industrial categories early in 1983 and hopes to promulgate regulations for 15 more industries before the end of the 1983 calendar year.

A second goal for 1982 was the reorientation of the federal role in the water quality management program (including administration of municipal treatment plant construction grants) away from project decision making and toward oversight of delegated state programs. EPA expected that 25 states would have fully delegated programs by the end of 1982. Furthermore, EPA anticipated funding 693 municipal treatment grants totaling $3.4 billion and completing 1,186 projects, bringing them on-line in 1982. By the end of 1982, 21 states had assumed fully delegated water quality programs, accounting for 59 percent of the total program staffing of the joint federal and state water quality program. Also in 1982, EPA made 586 construction grants totaling $1.4 billion and brought 1,290 new projects on-line.

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7. Originally, 23 categories were specified by Standard Industrial Code in NRDC v. Train, (1976). EPA further subdivided these into 38 industrial categories. Later, 10 categories were excluded under the so-called "paragraph 8 exemption" for industries where no toxic pollutants are found or where existing regulations prove adequate. These categories include: paint, ink, soap and detergents, gum and wood, explosives, photographic, auto and other laundries, printing and publishing, adhesives and sealants, and rubber.

Future Program Direction

EPA's basic water program strategy is to encourage continued delegation of federal programs to the states while fulfilling federal regulatory responsibilities under the Clean Water Act. The two major regulatory activities in the water program will continue to be the effluent guidelines and the NPDES permitting program. According to the EPA, however, the agency's overall regulatory strategy is shifting from national effluent-based controls to site-specific water quality-based controls. For example, where ambient water quality is poor because of multiple discharges and standards cannot be met with national effluent controls, more stringent effluent limitations will be imposed on dischargers. These more stringent standards will be set primarily by the states based on state water quality standards and state-developed relationships between individual dischargers and resulting ambient water quality. This implies a reduced federal role and increased state role in abatement and control, potentially resulting in cleaner water at less national cost. Critics of this shift in regulatory approach claim that control over toxic discharges will not be adequate under a water quality-based approach.

The agency is currently meeting the revised court schedule for proposing and promulgating effluent guidelines. EPA anticipates promulgating the remaining 16 guidelines by the end of 1984 (see Table 5). These will serve as the basis for EPA and state industrial discharge permits.

Controlling discharges of priority pollutants, including toxics, is the major emphasis of the NPDES program. EPA anticipates issuing about 500 major industrial and municipal permits in nondelegated states during 1984. Issuing general permits to entire categories of facilities discharging similar waste products will be given added emphasis in 1984 to reduce the backlog of expired permits. By the end of 1982, about 7,000 EPA permits and 24,000 state permits had expired. About 6,000 more are expected to expire in 1983. At the current rates of issuing permits (about 12,000 EPA and state permits annually) a backlog will persist through 1984.

One factor that could speed up permit issuance in 1984 will be promulgation of the remaining effluent guidelines. In the past, when BAT guidelines were not available, permits were either based on interim guidance (as was the practice in the early 1970s) or delayed until final regulations were issued. If all regulations are issued on schedule (by the end of 1984), further delays in the permit program could be avoided.

WATER QUALITY AND THE 1984 BUDGET

The requested 1984 budget for the water quality program is approximately $151 million. This represents a drop of 33 percent in real terms

TABLE 5. COURT-APPROVED SCHEDULE FOR EFFLUENT GUIDELINES

Guideline	Proposal Date a/	Promulgation Date a/
Aluminum Forming	11/82	7/83
Battery Manufacturing	11/82	6/83
Coal Mining	1/81	9/82
Coil Coating	1/81	11/82
Copper Forming (Phase I)	11/82	7/83
Electric and Electronic Components (Phase I)	8/82	3/83
Foundries	11/82	8/83
Inorganic Chemicals (Phase I)	7/80	6/82
Iron and Steel Manufacturing	1/81	5/82
Leather Tanning and Finishing	7/79	11/82
Metal Finishing	8/82	6/83
Nonferrous Metals (Phase I)	2/83	1/84
Ore Mining	6/82	11/82
Organic Chemicals and Plastics and Synthetic Materials	3/83	3/84
Pesticides	11/82	12/83
Petroleum Refining	12/79	9/82
Pharmaceuticals	11/82	9/83
Porcelain Enameling	1/81	11/82
Pulp and Paper	1/81	11/82
Steam Electric	10/80	11/82
Textile Mills	10/79	9/82
Timber	10/79	1/81
Adhesives and Sealants b/	2/83	11/83
Coil Coating (Phase II-can making segment)	2/83	10/83
Electrical and Electronic Components (Phase II)	3/83	11/83
Inorganic Chemicals (Phase II)	9/83	6/84
Non-ferrous Metals (Phase II)	9/83	6/84
Non-ferrous Metals Forming	9/83	6/84
Plastics Molding and Forming	10/83	6/84

SOURCE: Environmental Protection Agency

a/ Date published in Federal Register

b/ EPA intends to exclude this category under the provisions of the NRDC Consent Decree.

from the 1983 level of $216 million. The 1984 request amounts to 40 percent less for research and development, 5 percent more for enforcement, and 38 percent less for abatement and control. While the percentage reduction from the real 1983 funding level for abatement and control is about the same as that for research and development, the former account was reduced by $58 million while the latter was reduced by $11 million (in constant 1982 dollars). Full-time employment in the water quality program also will fall in 1984 (by approximately 15 percent). Personnel levels will be reduced by 29 percent in research and development, 5 percent in enforcement, and 16 percent in abatement and control. These data are presented in Table 6.

Explanation of Changes

Abatement and Control. The abatement and control subprogram is made up of six activities: state programs management, effluent standards and guidelines, grants assistance programs, water quality strategies implementation, water quality monitoring and analysis, and municipal source control.

Reduced federal resources for state program management imply an increased state responsibility. Some programs will be terminated, including studies conducted under the Great Lakes program (providing only what is necessary to maintain U.S. participation in the joint U.S.-Canadian Great Lakes Water Quality Agreement) and the Chesapeake Bay program. Decreases will occur in oversight activities for Section 106 supplementary grants to the states, and in resources for developing and overviewing delegated programs.

The 1984 effluent standards and guidelines program request represents a 29 percent real decrease from the 1983 level. This reduction reflects the agency's progress in developing effluent standards and guidelines. In addition to a 23 percent reduction in EPA personnel, there will be a 31 percent reduction in funding extramural (contract) activities for technical and litigation support.

More than one-half of the total decrease in water quality abatement and control occurs in the grants assistance program (not including funds for capital construction projects). In 1984, Section 106 supplementary grants, to assist states with water quality improvement efforts, will total $24 million, a reduction of 56 percent in real terms from the 1983 level of $54 million. The estimated funds that will be available in 1984 for obligation by states under Section 205(g) and 205(j) of the Clean Water Act for construction grants management and water quality management (about $115 million) is a reduction of about 28 percent in real terms below the amount

TABLE 6. EPA WATER QUALITY PROGRAM, 1981-1984 (By fiscal year)

	Actual Obligations		Budget Authority		Percent Change
	1981	1982	1983 (Estimated)	1984 (Requested)	1983-1984
			Millions of Dollars		
Nominal Dollars, Total	318	251	216	151	-30
Constant 1982 Dollars					
Abatement and Control	255	168	154	96	-38
Enforcement	33	29	24	25	+5
Research and Development	53	54	29	18	-40
Total	341	251	207	138	-33
			Permanent Full-Time Employees		
Abatement and Control	1,671	1,283	1,135	956	-16
Enforcement	662	618	528	501	-5
Research and Development	448	372	290	206	-29
Total	2,781	2,273	1,953	1,663	-15

Source: Congressional Budget Office, based on data obtained from EPA.

Note: Percent changes were calculated from annual budget figures before rounding and, therefore, represent actual differences. Budget figures in the table have been rounded to the nearest million and may not produce the same percent differences.

available in 1983 and is a 42 percent reduction compared to the amount available in 1981 (about $168 million). The Clean Lakes program will not be funded by the agency in 1984, leaving further work to the states. No wastewater treatment training grants will be funded in 1984.

There will be a net 3 percent real decrease in funding for water quality strategies and implementation, including a reduction of federal effort in dredge-and-fill permit review and in environmental emergency (oil spills) response and prevention. In most cases, these responsibilities will be shifted to the states. There will be no real change in funding or effort for ocean disposal permits compared to 1983, but the 1984 request for standards and regulations represents a 44 percent increase over the previous year. Additional funding will support technical assistance to the states in establishing water quality criteria and standards. This increase underscores EPA's shift from national criteria to more flexible local criteria and standards.

Under water quality monitoring and analysis, there will be a net real decrease of 8 percent. This program will emphasize assistance to the states in implementing a water quality-based approach to pollution control.

Finally, municipal source control will experience a net 35 percent real decrease in funding in 1984. This decrease is attributable to the transfer of NEPA compliance functions to EPA's interdisciplinary program and also to greater state responsibility for construction grants management.

Enforcement. The water quality enforcement subprogram consists of two elements: enforcement and permit issuance. Compared to 1983, EPA's 1984 request for the enforcement element will decrease by 4 percent, while the agency's 1984 request for the permit issuance will increase by 15 percent in real terms. Overall, the 1984 funding requested for the enforcement subprogram will be 5 percent higher in real terms over 1983 funding levels.

Under the water quality enforcement element, the following activities are carried out: NPDES permit compliance monitoring, administrative enforcement actions, and technical support for litigation against NPDES permit violators. The small reduction in funding for this element is the result of both increased delegation to the states and increased compliance rates for municipal and industrial sources.

The permit issuance element incorporates technical, administrative, and legal activities necessary for EPA to issue NPDES permits for the remaining 16 states and 4 territories without a fully delegated permit program. While the 1984 funding request for this activity is 15 percent higher in real terms than the 1983 funding level, the number of full-time employees will drop by 14 percent. The funding increase will be devoted

primarily to contractor support for reviewing industrial and municipal discharge waivers. The reduction in employees is attributable to EPA's reduced permit-writing workload because of delegation to the states and increased issuance of general permits.

EPA anticipates receiving over 1,500 discharge permit waiver requests from industry and municipalities seeking less stringent treatment requirements because of economic constraints or because discharging a lesser-quality effluent will not degrade the receiving waterway. These requests must be evaluated individually and can be a technically complex undertaking. The highest priority requests will be evaluated first (with contractor assistance) resulting in a backlog of variance applications that should persist for a number of years.

Research and Development. The research and development subprogram is divided into three main research areas: water quality, municipal wastewater, and industrial wastewater. All have decreased funding for 1984, with the greatest reduction occurring in industrial wastewater research (a 66 percent real reduction in 1984 compared to 1983). These research activities provide a scientific base for EPA and the states to use in establishing policies, guidelines, and standards.

Reductions in research resources are consonant with completion of research projects and a shift in research emphasis to support a water quality-based regulatory approach and a sound ocean disposal program. Major projects in three areas--health effects research involving municipal wastewater re-use and sludge disposal, development of water quality criteria documents for priority pollutants, and development of effluent guidelines for industries--will be completed by 1983. The primary objective of the research portion of the Great Lakes study, eutrophication research, will be achieved by 1983, with no further funding requested. In addition, some program elements have been incorporated into EPA's drinking water program or interdisciplinary program.

Water quality research efforts will be redirected to support EPA's shift from a technology-based regulatory strategy to a water quality-based strategy. With major long-term research on risk and health effects of priority pollutants largely complete or expected to be completed with issuance of BAT regulations for the remaining industrial categories in 1984, the agency is refocusing water quality research on developing site-specific water quality standards and the potential for meeting them with more stringent effluent controls. The ocean disposal research program will emphasize ecological impacts, hazard assessments, and biological monitoring techniques.

Outstanding Issues

- In the research and development subprogram, a reduction of 40 percent in real terms from 1983 levels is requested for 1984. This reduction follows a 1983 real reduction of 46 percent below 1982 obligations (there was no real change between 1981 and 1982). Over a two-year period, therefore, the water quality research and development program has undergone almost a 70 percent cutback. While these reductions reflect lower research needs because the effluent guideline promulgation process is nearing completion, EPA's new emphasis on a water quality-based control strategy may place new research burdens on the agency. EPA expects that the states will provide the resources to compensate for federal cutbacks. But it is not at all clear that the states will assume this responsibility, possibly jeopardizing EPA's overall shift toward water quality-based controls.

- In the abatement and control subprogram, the grants assistance programs will be reduced 60 percent in real terms from 1983 and 80 percent in real terms from 1981. Section 106 grants (general support for state water pollution control programs) will be cut by 56 percent; Clean Lakes grants to states will be eliminated; and training grants for professionals in the pollution control field will also be eliminated. Together, these represent almost one-half of the entire decrease in the water quality program. In addition, grants available under Sections 205(g) and 205(j) of the Clean Water Act—funds which assist state management efforts—will be reduced in 1984 by about 28 percent compared to 1983 levels. Compared to 1981, funds available to states in 1984 under Sections 205(g) and 205(j) will be reduced by about 42 percent. Despite these reductions, increased responsibility is being given to the states in all areas. While the original intent of the Clean Water Act was for the states to assume many federal programs, reduced federal funding for management and implementation of state water quality programs in combination with mounting budgetary pressure at the state level may affect the progress in water quality improvement efforts nationwide.

- In the abatement and control subprogram, the municipal source control activity (supplying management support to the construction grants program) will have 35 percent less funding in real terms from 1983 levels. EPA reports that this reduction reflects delegation of program responsibilities to six states. However, between 1982 and 1983 when nine states received such delegation,

real funding increased by 8 percent. Therefore, it is unclear whether any real relationship exists between the delegation of program management to the states and a consequent reduction in federal funds for managing the remaining program.

AIR QUALITY

In 1984, the air quality program will be the largest program in EPA's operating budget. The EPA 1984 budget request is $191 million, down from $212 million in 1983. Almost half of the 10 percent real reduction from the 1983 appropriation levels will occur in grant assistance to states under the abatement and control program. This will likely be accompanied by real budget reductions in state air programs, since many states will be unable or unwilling to make up the loss in federal funds. These smaller budgets for state air programs may cause administrative delays in processing permits for industry, slow or prevent the delegation of federally run programs to the states, and cancel the establishment of innovative state programs designed to administer air pollution controls more efficiently.

BACKGROUND

Air pollution is a problem for human health, property, and aesthetics. Control of visible discharges in urban industrial areas was among the first air pollution concerns. The problem of air pollution became more prominent in the late 1940s and early 1950s, when smog and isolated air pollution events began occurring in different parts of the United States. These incidents aroused interest in the short- and long-term health effects of air pollution, and eventually led to the passage of important federal legislation designed to control it.

Congressional Mandate

The focus of federal law is to establish air quality standards to protect health and welfare, and to ensure the development and maintenance of state air pollution programs to carry out both federal and local regulations. The forerunner of current federal air pollution legislation was the Clean Air Act Amendments of 1970. This law provided for development and enforcement of two kinds of standards for ambient air quality: "primary" standards, designed to protect human health; and "secondary" standards, designed to protect public welfare. With these categories in mind, EPA was to promulgate national ambient air quality standards for six major classes of so-called "criterion" pollutants: particulates, sulfur oxides,

hydrocarbons, carbon monoxide, oxides of nitrogen, and photochemical oxidants (such as ozone). States were to develop state implementation plans (SIPs) for EPA's approval, setting forth how they intended to achieve the national standards. The primary standards were to be achieved by 1975; secondary standards were to be achieved within a subsequent reasonable time period.

The 1970 act specified that ambient air quality standards were to be implemented uniformly throughout the country, but the emission limitations set by the states for existing sources to help attain these standards were allowed to vary. The 1970 act also required minimum national emission standards to be promulgated for new stationary sources (such as utility power plants). States could enact tougher standards for these new sources, but could not implement less stringent ones. These federal standards, called new source performance standards (NSPS), were to be promulgated starting in 1971 for specific categories of pollution sources and revised every four years thereafter.

The August 1977 amendments to the Clean Air Act changed some practices regarding national ambient air quality standards and new source performance standards. By December 31, 1980, and at five-year intervals thereafter, EPA was required to make a thorough review of the national ambient air quality standards. The 1970 act had only required a review "from time to time." The 1977 act also required EPA to promulgate by August 1978 a new list of major stationary source categories, and to promulgate NSPS for these categories by August 1982.

The 1977 amendments made significant changes in automobile emission control requirements, required prevention of "significant deterioration" in "clean" air areas that had air quality better than national standards, and established strict requirements for areas that failed to meet the standards. Deadlines for the reductions in emissions that had been required by the 1970 act were postponed for automobiles, trucks, motorcycles, and other vehicles. (These deadlines had already been postponed for one year by the Energy Supply and Environmental Coordination Act of 1974.)

The requirements preventing significant deterioration divided clean air regions into three classes, with the amount of air quality deterioration allowed varying with the class. For areas not meeting the national ambient standards, the 1977 amendments delayed the required date for attainment of primary standards to 1982 for some pollutants, and to 1987 for others. New sources in these nonattainment areas were required to attain a "lowest achievable emission rate" standard, defined as the most stringent emission

standard contained in any state plan for that category of source, or the most stringent emission limit achievable in practice, whichever was lower.

Program Accomplishments

Over the last decade, new laws, regulations, procedures, and policies on air pollution controls have produced a noticeable improvement in air quality. Air quality has improved in most urban areas and has remained stable in many others. Nevertheless, substandard air quality still characterizes some cities, and pollution growth still threatens some areas of the country.

In response to the Clean Air Act's mandate, EPA has focused on developing national ambient air quality standards, reviewing state implementation plans designed to attain the national standards, and developing emissions standards for various pollutants and sources. 8/ In 1971, EPA promulgated national ambient air quality standards for the six pollutants specified in the 1970 act (particulates, sulfur dioxide, hydrocarbons, carbon monoxide, oxides of nitrogen, and photochemical oxidants such as ozone). A seventh pollutant (lead) was added in 1978. EPA has been reviewing these standards as required by the law. A revised ozone standard was promulgated in 1979, and the hydrocarbon standard was revoked in 1981. In 1982, work continued on possible revisions to the carbon monoxide, nitrogen oxide, sulfur oxides, and particulate matter standards.

In 1982, substantial efforts were directed at eliminating the backlog of unprocessed SIPs. In August 1979, EPA released its list of the 64 categories or subcategories of major new stationary sources subject to new source emission standards, which the 1977 amendments had required by August 1978. Since that time, approximately 12 source categories have been deleted, usually because the categories were expected to show only limited growth. NSPS have been promulgated for a number of other categories, including a major one for coal-fired steam electric generating plants in

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8. This latter area covers two programs: the NSPS and hazardous pollutants program. The NSPS program develops emission limits for specific categories of new pollution sources (such as utility plants and industrial boilers) and pollutants for which national ambient standards have been set (e.g., carbon monoxide and lead). The hazardous pollutants program develops emission limits covering specific plants and pollutants found to be hazardous, but not covered by national ambient standards.

1979. EPA has also promulgated NSPS for all of the 27 categories required by the 1970 amendments.

Beyond the six pollutants for which ambient criteria have been assigned, seven substances (asbestos, mercury, beryllium, vinyl chloride, benzene, radionuclides, and arsenic) have been listed by EPA as hazardous, under Section 112 of the 1977 act. Emission standards have been promulgated for four of these (asbestos, beryllium, mercury, and vinyl chloride). Work in 1982 continued toward promulgation of four benzene hazardous emission standards, proposal of a fifth benzene standard, and development of emission standards for pollutants from coke ovens.

Future Program Requirements

EPA must continue its revision of national ambient air quality standards and its issuance of emissions standards under the NSPS and hazardous air pollutants program. The 1977 amendments required EPA to complete its review of the ambient standards by December 31, 1980, and to review these standards every five years thereafter. Of the seven standards to be reviewed, however, only two have been completed—the ozone standard has been reviewed, and the hydrocarbon standard has been revoked. The current EPA schedule envisions promulgation of a carbon monoxide standard in 1983 and proposal of particulate, nitrogen dioxide, and sulfur dioxide standards in 1983. These three standards are to be promulgated in 1984.

The 1977 amendments require EPA to promulgate NSPS by August 1982 for the 64 types of sources listed in August 1979. While progress was made, this deadline was not met in 1982. The agency plans to continue efforts in this area for 1983 and 1984 to complete its requirement.

EPA also is required to develop emission standards for the hazardous pollutants it has listed. To date, EPA has listed seven substances but three (benzene, arsenic, and radionuclides) remain for which emission standards have not yet been promulgated. Four separate benzene standards covering different emission sources have been proposed, with another likely in 1983. Standards are being developed for radionuclides, but none have been proposed. Standards for arsenic are only under study. EPA plans to continue screening chemicals in 1983 and 1984 to determine which ones are hazardous. The agency also plans to develop a comprehensive plan to control toxic pollutants by 1984, taking into account control already achieved through other emission standards under the act.

AIR QUALITY AND THE 1984 BUDGET

The requested 1984 budget for the air quality program is approximately $191 million. This is a 14 percent reduction in real terms from the 1983 level of $212 million (see Table 7). The largest real decrease occurs in the research and development subprogram (18 percent). A 3 percent decrease occurs in the enforcement subprogram. The abatement and control program falls only 14 percent in real terms, although reductions in this subprogram account for 65 percent of the total budget decrease of the air program. Moreover, almost all of this reduction occurs in resource assistance to the states.

Full-time employment also is reduced by approximately 2 percent from 1983 levels. Like the funding changes, the anticipated major reductions in staff occur in the research and development subprogram. These data are presented in Table 7.

Explanation of Changes

Abatement and Control. The abatement and control subprogram consists of several activities: development of regulations for mobile and stationary sources, resource assistance and air quality management support for states, compliance certification for mobile sources, and air quality monitoring and trends assessments. Compared to 1983 funding levels, the 1984 budget request for all of abatement and control is 14 percent lower in real terms; compared to 1981 levels, it is 31 percent lower (see Table 7).

The budget cuts in the abatement and control subprogram are directed primarily at one area—direct grants to states. Traditionally, the federal government supplies 45 percent (on average) of state air quality budgets. In 1984, over 96 percent of the total budget reduction in abatement and control will occur in direct grants to states, or in the so-called Section 105 grants. The 1984 budget request for Section 105 grants is $70 million; this reflects a real decrease of 21 percent from the 1983 level and 34 percent from the 1981 level. EPA believes this reduction can occur without hurting program efforts for several reasons: states have already made considerable progress in developing and implementing SIPs; many unnecessary and duplicative air quality monitoring sites exist and can be eliminated at substantial savings; management efficiencies can be employed in most programs to reduce administrative costs; and agencies can impose fees on permits to help offset costs. The agency believes that with such savings in place, states will be able to pursue their current programs and even introduce some limited program innovations, such as emissions trading.

TABLE 7. EPA AIR QUALITY PROGRAM, 1981-1984 (By fiscal year)

	Actual Obligations		Budget Authority		Percent Change
	1981	1982	1983 (Estimated)	1984 (Requested)	1983-1984
			Millions of Dollars		
Nominal Dollars, Total	235	230	212	191	-10
Constant 1982 Dollars					
Abatement and Control	157	139	127	109	-14
Enforcement	32	28	20	19	-3
Research and Development	63	63	57	47	-18
Total	252	230	204	175	-14
			Permanent Full-Time Employees		
Abatement and Control	840	773	702	693	-1
Enforcement	501	446	334	332	-1
Research and Development	413	357	339	326	-4
Total	1,754	1,576	1,375	1,351	-2

SOURCE: Congressional Budget Office, based on data obtained from EPA.

Note: Percent changes were calculated from annual budget figures before rounding and, therefore, represent actual differences. Budget figures in the table have been rounded to the nearest million and may not produce the same percent differences.

The states counter, however, that such reductions in federal assistance cannot be made up by increasing state funds, since many states face their own severe financial constraints. Moreover, while most states will likely turn to increasing permit fees to provide funds for environmental programs, many do not have existing statutory authority to collect such fees. Thus, at least over the short term, states will be faced with either using more of their general revenue funds to maintain state air programs, or simply operate on a lower budget in light of federal reductions. While it is too early to tell, many have claimed that the cost of such budget reductions will be delays in state permit issuance to industry and a decline in the quality of permit review, failure to accept delegation of current federally run programs (delegation that is often counted on by the federal government to lower its own costs), and failure to establish innovative programs at the state level that may lower compliance costs (for example, emissions banking and "bubble" programs).

In other subprogram areas, most budget changes (including slight increases) are not accompanied by major changes in current efforts. Real funding reductions in the regulatory development activity partly reflect the use of fewer resources to meet lower program demands. For example, only 30 new source performance standards need to be proposed or promulgated in 1984, compared to 45 in 1983.

Enforcement. The enforcement subprogram is divided into stationary and mobile source activities. The 1984 budget for the overall subprogram is only 3 percent less in real terms than the 1983 budget, but it is roughly 39 percent lower in real terms than actual 1981 obligation levels. No significant changes from 1983 are indicated in the management and implementation of this program for 1984. In general, states are expected to fulfill a large share of enforcement responsibility in the face of lower federal regional involvement.

Research and Development. The research and development subprogram consists of research activities in four major areas: oxidants, hazardous air pollutants, mobile sources, and gases and particles. The requested 1984 budget for each of these elements is lower, reflecting an overall decline of 18 percent in real terms from 1983. Compared to 1981, the 1984 request has fallen by 25 percent in real terms.

Some budget reductions, particularly in the monitoring systems and quality assurance program activities, represent fund transfers to the Intermedia Program (of the Interdisciplinary Operating budget of EPA) which is outside of the air quality program. In most cases, however, the budget reductions reflect a trend begun in 1982: increasing funds for scientific assessment while imposing more than compensating reductions in

long-term research. This trend is designed to support immediate regulatory needs, through analysis and interpretation of available data. Less emphasis will be devoted to long-term research aimed at understanding basic health effects and the dynamics of the environment. For example, the 1984 budget request for scientific assessment is 98 percent higher in real terms than the 1982 budget; conversely, the 1984 request for health effects research is almost 50 percent less in real terms than in 1981. However, the amount cut (in 1982 dollars) during this period will be almost $13 million in health effects research compared to a real increase of only $2.6 million in scientific assessment.

The hazardous pollutants activity budget request calls for a 10 percent real increase in 1984. Most of this increase reflects intensified efforts to prepare health assessments for use by the agency in determining which pollutants should be listed as hazardous. In addition, the agency plans to increase in-house examination of dose-response studies concerning the respiratory toxicity of organic vapors. Such information will be used to help assess the relative hazards of individual pollutants.

Outstanding Issues

- In the abatement and control subprogram, resource assistance to the states in the form of direct grants is reduced in real terms for the third year in a row (by 21 percent from 1983 and by 33 percent from 1981 spending levels). In the face of similar state budget austerity, it may be difficult for states to maintain current real spending levels. The likely outcome expressed by many at the state level will be delays in processing and approving air quality permits for new industrial plants, failures to accept delegation of air programs now run by the federal government but designed to be turned over to the states, and inadequate state resources to establish and run new innovative programs designed to more efficiently improve air quality (for example, emissions banking) at less cost to industry.

- In the research and development subprogram, long-term research (which typically involves basic research directed at understanding health effects and the workings of the environment) continues to receive less funding, while scientific assessment activities that support development of standards for near-term regulatory deadlines receive slight increases. Compared to 1981, the 1984 request for health effects research has fallen roughly 50 percent in real terms. While some of these reductions involve program transfers, the majority reflect an overall reduction in EPA's long-

term research. This should not affect standards development in the near term, but it will reduce the overall body of knowledge concerning pollutant health effects needed for future standards development.

HAZARDOUS WASTE

The hazardous waste program is the third largest program in EPA's operating budget. The program is designed primarily to administer the Resource Conservation and Recovery Act of 1976 (RCRA, Public Law 94-580), which regulates the handling of hazardous waste from the point of manufacture through disposal. Obligations reached a peak of $141 million in 1981, then declined to $111 million in 1982. The 1984 budget request of $110 million is 10 percent lower in real terms than the 1983 budget level of $117 million. Almost one-quarter of the reduction will occur in financial assistance to the states. Such reductions may frustrate the federal government's goal of delegating program responsibility to the states.

BACKGROUND

Each year, nearly 50 million metric tons of hazardous waste is generated in the United States. Most of this is eventually disposed of in landfills. Land disposal, however, can result in groundwater contamination if seepage occurs. Drinking water can thus be contaminated, with adverse health effects. Other waste disposal methods, such as incineration, can also result in environmental pollution with potentially harmful effects on public health.

In the mid-1970s, national concern over this problem led to passage of federal legislation to ensure proper management and permitting for hazardous waste. This legislation provides the mandate for federal regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste.

Congressional Mandate

Federal law regulating hazardous waste is relatively new; the Resource Conservation and Recovery Act was enacted in 1976. The act established guidelines for the management of hazardous waste from generation to disposal, and instructed EPA to identify and list hazardous waste, develop a manifest system for tracking it, and establish performance standards and a permit system for its treatment, storage, and disposal.

Deadlines for accomplishing these goals were set, with the basic regulatory framework to have been completed by April 1978.

Under RCRA, states are encouraged to assume primary responsibility for hazardous waste programs so long as the state program is at least as stringent as the federal program. States receiving authorization to administer their own hazardous waste programs become eligible for federal grant assistance to do so. EPA expects that most states will be fully authorized or have an authorization application under review by 1985.

Program Accomplishments

Many of the deadlines set forth in RCRA were missed. Promulgation of basic regulations occurred primarily in 1980 and early 1981, rather than early in 1978. Evaluation and revision of the regulations has been an ongoing EPA activity.

Permit issuance for treatment, storage, and disposal facilities has proceeded much more slowly than planned. In fiscal year 1981 only one permit was issued. In 1982, EPA issued four permits, although the initial budget estimate for that year had been 100 permits. The 1983 budget estimate of 1,020 permits has been revised down to 750, and the 1984 estimate is for 575 permits. Approximately 10,000 hazardous waste treatment, storage, and disposal facilities must eventually be issued permits if they are to continue in operation.

Important regulations concerning disposal have also been delayed. After receiving public comments regarding proposed land disposal regulations in 1981, EPA determined that review and modification of the proposed regulations were necessary and that standards could not be promulgated until the fall of 1983. A court order resulting from State of Illinois v. Gorsuch directed EPA to promulgate revised regulations for hazardous waste land disposal by February 1, 1982. This deadline was shifted to July 15, 1982, after an unsuccessful appeal attempt by EPA. EPA issued interim final regulations in July 1982, but expects eventually to revise and expand these.

Future Program Direction

EPA's future efforts will concentrate on development of final hazardous waste rules; delegation of program responsibility to the states where applicable; compliance monitoring inspections of treatment, storage, and disposal facilities; and facility permit issuance. A new policy allowing permits for entire classes of storage and treatment facilities will be initiated to reduce application requirements and time required for permit

issuance. The agency also intends to review state compliance monitoring and enforcement programs to ensure national consistency.

HAZARDOUS WASTE AND THE 1984 BUDGET

The requested 1984 appropriation for the hazardous waste program is approximately $110 million (see Table 8). This is an 11 percent reduction in real terms from the 1983 level of $117 million. It includes real decreases of 7 percent for abatement and control, 21 percent for research and development activities, and a real increase of 41 percent for enforcement activities. Compared to 1981 actual obligations, the 1984 request represents a 34 percent real reduction in funds.

The full-time employment request is lower than the 1983 level by about 3 percent. The largest anticipated reduction in staff (7 percent) will occur in the research and development subprogram. Abatement and control is slated for a 2 percent staff decrease in 1984, while the enforcement staff level is estimated to remain unchanged from 1983. Overall, staff levels for the hazardous waste program in 1984 will decrease by 14 percent from 1981 levels.

Explanation of Changes

Abatement and Control. The abatement and control subprogram consists of three activities: waste management regulations, guidelines, and policies; financial assistance; and waste management strategies implementation. The first activity is directed at developing regulations. Financial assistance provides funding to states for developing and implementing hazardous waste management programs. The waste management strategies activity coordinates EPA regional responsibilities for overseeing and operating state hazardous waste programs.

The proposed 1984 funding level for regulatory development, guidelines, and policy activities is 15 percent lower in real terms than the 1983 level. EPA indicates that the lower level of funding is possible because data collection needed to support promulgation of regulations is anticipated to be completed in 1983. Financial assistance to the states will be decreased by 8 percent in real terms from $44.1 million to $42.5 million, reflecting the agency's view that states are more capable of funding their own hazardous waste programs than they have been in the past. However, given that an increasing number of states are anticipated to be administering parts of their hazardous waste programs and that state budgets are generally constrained, this view may be overoptimistic.

TABLE 8. EPA HAZARDOUS WASTE PROGRAM, 1981-1984 (By fiscal year)

	Actual Obligations		Budget Authority		Percent Change
	1981	1982	1983 (Estimated)	1984 (Requested)	1983-1984
			Millions of Dollars		
Nominal Dollars, Total	141	111	117	110	-6
Constant 1982 Dollars					
Abatement and Control	109	75	78	72	-7
Enforcement	12	7	2	3	+41
Research and Development	30	29	32	25	-21
Total	151	111	112	100	-11
			Permanent Full-Time Employees		
Abatement and Control	396	310	429	422	-2
Enforcement	261	170	70	70	0
Research and Development	69	106	144	134	-7
Total	726	586	643	626	-3

SOURCE: Congressional Budget Office, based on data obtained from EPA.

Note: Percent changes were calculated from annual budget figures before rounding and, therefore, represent actual differences. Budget figures in the table have been rounded to the nearest million and may not produce the same percent differences.

The waste management strategies budget will receive a real increase of over 18 percent, (from $13.0 million in 1983 to $16.1 million in 1984). Permitting of facilities and negotiation of cooperative arrangements with the states (delegating portions of the hazardous waste control program) will be the focus of 1984 activities.

Under RCRA, hazardous waste treatment, storage, and disposal can occur only in accordance with a permit issued by EPA or an authorized state. Development of authorized state programs is a top priority. A 1980 study performed by EPA indicated that the agency would have to issue about 7,500 site permits. By the end of 1983, EPA expects to have issued about 10 percent of that number. Beginning in 1984, the agency plans to begin issuing permits by class of facility. This should reduce the requisite number of permits and the time needed to issue them. In addition, the issuance of some 20,000 permits was estimated to be required through state programs. Approval of state RCRA programs is thus important to carrying out the permitting process.

By the end of 1984, the agency expects that 18 states will be fully authorized and 32 states will have applications under review. EPA hopes to have granted final authorization to 45 states by the end of 1985. At present, 35 states have qualified for partial interim authorization. States with partial authorizations may administer the program parts for which they have received authorization. Federal financial and technical assistance to states operating their own programs is an important incentive for states to assume program responsibility. The planned decrease in financial assistance to states may result in decreased willingness by the states to operate hazardous waste programs. EPA would then be responsible for administering and paying for the program in those nonparticipating states. In that event, budget levels for the program would probably not be sufficient, given that the agency is anticipating a high degree of state program implementation.

Enforcement. The 1984 request for enforcement funding represents a real increase of 41 percent (from $2.4 to $3.5 million), primarily to allow for more travel to support state oversight activities and to automate the reporting of state enforcement data. Hazardous waste permit issuance, formerly funded under this subprogram, is now performed under the abatement and control subprogram.

Research and Development. The research and development subprogram consists of scientific assessment, technical information, monitoring and quality assurance, health effects research, and control technology development. Control technology development activities account for about half the funding level in this subprogram, and these are the activities that will be most affected by the anticipated 21 percent real decrease in

hazardous waste research and development funding for 1984. This decrease reflects the anticipated completion in 1983 of spill control technology development, initial tests for advanced thermal technologies, and technical manuals for storing hazardous waste.

Outstanding Issues

- One of EPA's primary goals for the hazardous waste program in fiscal years 1983 and 1984 is to authorize states' operation of their own programs. The agency expects one state to receive final authorization in 1983 and 17 more states to be fully authorized in 1984. However, financial assistance to the states in 1984 is estimated to decrease by 8 percent in real terms (a $1.6 million decrease) in 1984. EPA's premise is that states are better able to fund their programs than they have previously been. The states are facing budget constraints of their own, however, which may limit their ability to replace federal dollars with state dollars.

TOXIC SUBSTANCES

The toxic substances program is one of EPA's newest. A small program existed in the mid-1970s, but obligations grew dramatically following enactment of the Toxic Substances Control Act (TSCA) in 1976. The program currently ranks fourth among EPA's regulatory programs with a 1983 budget of $70 million. The 1984 budget request for toxic substances includes a 9 percent real decrease from the 1983 appropriated level, with over half of the decrease occurring in the area of research and development. This decline reflects a completion of several research projects and a continued lowering of long-term research and development activities performed outside the agency.

BACKGROUND

There are over 4 million known chemical compounds, about 55,000 of which are in commercial production. 9/ The environmental and health effects of many of these substances have not been adequately studied. The toxicity and persistence in the environment of certain chemicals have often been discovered only after their use has become widespread and after they have become important to industrial, commercial, or agricultural processes.

Before 1976, over two dozen major federal laws exercised control over toxic substances in various forms and places, from pesticides to foods, and from the workplace to the nation's air and water. 10/ However, a number of important gaps of authority existed in these laws. Perhaps most notably, no authority existed for pre-market screening of chemicals unless they were pesticides, drugs, or food additives.

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9. Environmental Quality: The Twelfth Annual Report of the Council on Environmental Quality (1981)

10. Environmental Quality: The Tenth Annual Report of the Council on Environmental Quality (December 1979), p. 174.

Congressional Mandate

In response to their proliferation of chemical compounds with unknown health and environmental effects and the lack of adequate controls, the Congress enacted the Toxic Substances Control Act in October 1976 after nearly six years of executive and Congressional deliberation.

The Toxic Substances Control Act contains four major sections. Section 4 authorizes EPA to promulgate testing requirements for particular chemicals, with testing to be conducted by the manufacturers or processors of the chemicals. Section 5 requires manufacturers of new chemicals and manufacturers and processors of chemicals for significant new uses to give EPA at least 90 days' notice before beginning manufacture. Section 6 allows EPA to regulate the manufacture, processing, and commercial distribution of chemicals that present unreasonable risk to human health or the environment as determined by EPA. Section 8 permits EPA to require industry to maintain and report information concerning uses, production levels, number of workers exposed, and health and environmental effects of chemicals.

Program Achievements

The major accomplishments to date have been the publication, in 1979, of the Section 8(b) inventory of existing chemicals; the establishment and operation, also in 1979, of the Section 5 premanufacture notification system (in 1979), and the regulation of polychlorinated biphenyls (PCBs) and chloroflurocarbons (CFCs) under Section 6. Final rules were issued under Section 6 in February 1978 for the marking and disposal of PCBs; in March 1978 for prohibiting the use of certain CFCs for all nonessential aerosol applications; in April 1979 for prohibiting the manufacture, processing, distribution, and non-totally-enclosed use of PCBs; and in March and May 1980 for the control of wastes contaminated with dioxin.

Several chemical control rules have also been proposed. In May 1980, EPA, in conjunction with other agencies, banned the use of PCB-containing equipment in food and feed-processing plants and storage facilities, federally inspected meat, poultry, and egg product establishments, and agricultural chemical facilities where pesticides and fertilizer are manufactured or stored. In September 1980, EPA proposed a rule requiring all primary and secondary schools to identify crumbling ("friable") asbestos.

The toxics program has also experienced several delays. Although the TSCA deadline for publication of the inventory of existing chemicals was set for October 1978, EPA decided to delay publication so that it could issue not just a simple list of existing chemical substances, but an inventory that could be the cornerstone of a chemical information system for regulation of

existing chemicals. This delayed publication until June 1, 1979. Another significant delay has occurred in the Section 4 testing program, under which no final rules have been issued requiring testing of particular chemicals.

Future Program Direction

Activities are underway in all four of TSCA's main regulatory sections. In the Section 4 testing program, EPA will propose or promulgate approximately 34 test rules for chemicals in 1984, which would represent a large increase from estimated 1983 activity levels. In January 1981, a federal court issued an order requiring EPA to respond to the backlog of testing recommendations issued by the Interagency Testing Committee (ITC). Eleven individual chemicals or categories of chemicals were required to be considered for rulemaking in 1981, with another 13 required for each of 1982 and 1983. In 1984, EPA plans to complete these requirements, somewhat less than a year behind schedule.

Under Section 5 of the act, EPA is expected to receive approximately 1,300 premanufacture review notices. Roughly 660 of these notices are expected to receive a full review because of expected high toxicity, while the remaining 640 will be reviewed under a "low-risk" exemption program.

Under Section 6, EPA plans to increase support for regional compliance monitoring and case development activities concerning chemicals now being produced. Recordkeeping activities under Section 6 (requiring reporting by industry of chemicals in use) will increase in 1984 to maintain the approximately 80,000 submissions (on roughly 55,000 chemicals).

A number of changes begun in 1982 and 1983 were directed at reducing the agency's workload in the toxics program. Under Section 4, EPA has begun negotiating voluntary agreements with industry for testing chemicals, rather than promulgating test rules. This has potential for reducing workloads, since development of test rules traditionally has been expensive. In addition, EPA has split the review process for new chemicals into two groups: low-risk and high-risk. By eliminating full scientific assessment for a large portion (roughly 50 percent) of incoming new chemicals judged low-risk, EPA has reduced the required resources in this area.

TOXIC SUBSTANCES AND THE 1984 BUDGET

The requested 1984 budget for EPA's toxic substances program is approximately $67 million. This represents a 9 percent reduction in real

terms from the 1983 level. The research and development subprogram will be reduced in real terms by 17 percent, while the enforcement subprogram will actually be increased by roughly 23 percent. Since 1981, the program has experienced lower annual funding. Compared to 1981, the 1984 funding for the entire toxics program is 39 percent lower in real terms.

Full-time employment for 1984 in the toxic substances program is reduced by only 3 percent from 1983 levels. The greatest reduction (6 percent) occurs in the abatement and control program, while in enforcement it rises 10 percent. Since 1981, full-time employment has fallen 15 percent. These data are summarized in Table 9.

Explanation of Changes

Abatement and Control. The abatement and control subprogram comprises several activities: testing and evaluation, chemical control, TSCA information, and toxics integration. The overall funding for these activities will decrease in 1984, although some activities will receive slight increases in their budgets. Compared to 1981, however, the 1984 budget for this activity is over 40 percent lower in real terms.

In the majority of circumstances, budget reductions in chemical testing, evaluation, and control reflect a shift in emphasis from a rigid regulatory approach for controlling chemicals toward initiating more voluntary efforts with industry for testing or developing test rules. This shift in EPA's regulatory approach began in 1982. The procedure relies heavily on industry and public interest participation in reaching agreements on chemicals under review. In 1984, EPA expects to complete 5 decisions not to test, 14 negotiated testing agreements, and 14 proposed rulemakings. Resource reductions also will come from finishing a large number of testing guidelines in 1983.

Changes in the proposed distribution of funds also reflect a shift in emphasis in the chemical testing and control activities. Lower salaries and expenses for testing and chemical control are to be offset presumably by greater cooperation by industry in the testing program. By utilizing voluntary agreements, the agency anticipates that it will be able to initiate testing of chemicals with fewer agency resources than would be required to promulgate rules.

The toxic integration activities are designed to coordinate chemical control programs and information within the United States and between the United States and other Organization for Economic Cooperation and Development (OECD) countries. Resources in this area are reduced in 1984, primarily because of the cessation of the state toxics integration management substance program. The agency believes a useful network for

TABLE 9. EPA TOXIC SUBSTANCES PROGRAM, 1981-1984 (By fiscal year)

	Actual Obligations		Budget Authority		Percent Change
	1981	1982	1983 (Estimated)	1984 (Requested)	1983-1984
			Millions of Dollars		
Nominal Dollars, Total	94	83	70	67	-4
Constant 1982 Dollars					
Abatement and control	63	44	38	36	-5
Enforcement	5	4	3	3	+23
Research and Development	32	34	26	22	-17
Total	100	82	67	61	-9
			Permanent Full-Time Employees		
Abatement and Control	457	395	397	374	-6
Enforcement	89	73	79	87	+10
Research and Development	170	166	151	145	-4
Total	716	634	627	606	-3

SOURCE: Congressional Budget Office, based on data obtained from EPA.

Note: Percent changes were calculated from annual budget figures before rounding and, therefore, represent actual differences. Budget figures in the table have been rounded to the nearest million and may not produce the same percent differences.

information and distribution between the states and EPA has been established and further assistance in this area is unnecessary. However, the agency will continue to support coordination activities with OECD, maintenance of the chemical substances information network, and national workgroups to present EPA's regulatory strategy to the public and industry.

Enforcement. The 1984 budget for the toxic substances enforcement subprogram rises 23 percent in real terms from the 1983 budget levels. However, it is still roughly 40 percent lower than the 1981 budget. The rise in 1984 funding will be used to support activities that were previously conducted by the National Enforcement Investigation Center. These activities include sample analyses to support TSCA inspections and emergency response work involving TSCA-related chemicals. Additional resources will also support increased import surveillance and liaison with the U.S. Customs Service.

Research and Development. The toxic substances research and development subprogram consists of eight activities covering health effects, environmental processes, and scientific assessments. Funding for the overall subprogram will decline in 1984 by 17 percent in real terms, while employment will decline by 4 percent.

Many of the budget changes in toxics research and development reflect transfer of some programs to the Intermedia subprogram under the Interdisciplinary Program. Other budget changes are due to several unrelated reasons. Under health effects, the budget rises slightly because of some accounting shifts and increased extramural funds to develop and validate test methods, perform scientific assessments, and examine toxicologic tests used in chemical reviews. The budget for environmental processes will decline due to program transfers and the completion in 1983 of a number of studies of chemical life cycles and their effects. The budget for scientific assessments will fall because several projects will be completed in 1983.

However, the overall budget changes between 1983 and 1984 in research and development do not adequately reflect the key shift that has been occurring since 1981—that is, reduced funding for long-term research conducted outside the agency to support test methods development and health effects studies. Between 1981 and 1984, funds available for outside research contracts will have fallen almost 50 percent in real terms, while agency salaries and expenses will have fallen only 1 percent.

Outstanding Issues

- In the research and development subprogram, overall funds will continue to decline (by 17 percent in real terms from 1983 levels and by 31 percent from 1981 levels). While some of this reduction reflects completion of key research tasks needed to develop testing criteria, much of the remainder reflects the desire to reduce long-term research conducted outside the agency. Such reductions may not affect current efforts, but may hinder progress in developing improved testing methods and risk-assessment procedures.

- In the abatement and control subprogram, EPA is encouraging voluntary testing of toxic substances by industries. Such cooperative agreements are being encouraged to save agency money, presumably without affecting the goals of the testing program. While this program appears to be hastening chemical reviews, it is unclear whether it is an effective substitute for EPA testing.

- In the enforcement subprogram, a growing area of emphasis, 1984 funding is expected to rise 23 percent in real terms from 1983 levels. However, most of this increase reflects a transfer of activities previously conducted by a separate program (the National Enforcement Investigation Center) and not an increase of resources to the current program's activities.

SUPERFUND

The Hazardous Substance Response Trust Fund, commonly known as the Superfund, received its first appropriation—$75 million—in fiscal year 1981. The 1984 budget request is for $310 million, a 41 percent real increase over 1983. The Superfund is not part of EPA's operating fund. The major share of spending, and the area of major increase in 1984, is for federal spill and site response activity.

BACKGROUND

The potential danger of the nearly 50 million metric tons of hazardous waste generated annually in the United States has not always been recognized. The locations of many older disposal sites are not known and disposal practices used at many of those sites pose risks to public health and the environment. Potential threats include contamination of surface water and ground water (sometimes used for drinking); destruction of fish, wildlife, and plant life; fires and explosions.

Congressional Mandate

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, Public Law 96-510) created the Superfund to help clean up old hazardous waste sites and spills of hazardous substances threatening public health or the environment. The fund is financed by excise taxes on petroleum and certain chemicals; appropriations from the general fund of the U.S. Treasury; and penalties, recoveries, and interest earned on the fund balance. The taxes, in effect since April 1981, will terminate on September 30, 1985, or before, depending on the amount collected and the size of unobligated balances in the fund. At present, it appears that termination of the tax before the end of fiscal year 1985 is unlikely. Use of the money in the Superfund is authorized indefinitely for payment of federal or state government emergency response costs, claims, and damage assessments. Federal cleanup activity may not be initiated in a state until that state commits itself to covering 10 percent of the costs. The fund does not provide for victim compensation.

Program Accomplishments

The focus of the program to date has been on monitoring private, state, and local government cleanup efforts, coordinating emergency spill responses, and identifying and evaluating abandoned and uncontrolled hazardous waste disposal sites. Total outlays for the program through fiscal year 1982 were about $88 million, and fiscal year 1983 outlays through February were about $46 million. During 1981, 500 preliminary assessments of sites and 500 site inspections were conducted. Cleanup action was initiated for only 1 site. In 1982, EPA estimated that it would conduct 8,000 preliminary assessments and 1,500 site inspections, with cleanups occurring at 7 sites. The actual accomplishments in 1982 included 1,500 preliminary site assessments, 1,300 site inspections, and 14 cleanups.

Other Superfund program activities have included preparing a national priority list, establishing a national site notification system to identify the abandoned and uncontrolled hazardous waste dumpsites, developing a computerized data base for past hazardous substance incident response, and awarding cooperative agreements to 18 qualifying states.

Future Program Direction

The Administration plans to terminate the Superfund program in the late 1980s. Unless it is extended legislatively, the excise taxes will not be applied after 1985; the authorization for general fund appropriations will also expire after 1985. Money in the fund will remain available for appropriation until it is expended. For fiscal years 1984-1986, the Administration plans annual appropriations between $300 million and $400 million, diminishing thereafter until the fund is depleted.

By 1985, EPA plans to have completed screening and assessing all reported uncontrolled hazardous waste sites to verify its priority list ranking. Remedial investigations and planning at new sites will continue while on-site cleanup occurs where designs have been completed. States will be encouraged to manage response actions, and efforts will be made to have responsible parties bear the costs of response.

Enforcement activities will concentrate on developing cases against parties responsible for uncontrolled sites or spills. For those parties who do not voluntarily assume the cost of response, the agency will initiate administrative and legal actions. When responsible parties can be found for actions already financed by the fund, legal or administrative efforts will be made to recover costs.

HAZARDOUS SUBSTANCE RESPONSE AND THE 1984 BUDGET

The 1984 appropriation request of $310 million is $100 million higher than the 1983 level, representing a 41 percent increase in real terms (see Table 10). Most of the dollar increase and the greatest percentage increase are in the largest subprogram area—hazardous substance response actions.

The 1984 request for the research and development subprogram is 4 percent lower in real terms than the 1983 level. Most activities in this subprogram are to provide technical support to implement research conducted under other EPA programs. EPA expects to increase sample analyses from waste sites and to complete engineering studies associated with developing Superfund program implementation manuals. The real funding level for management and support activities will decrease by 4 percent in 1984 relative to 1983. The proposed 1984 budget for the enforcement subprogram is 44 percent higher in real terms than the 1983 level. This increase is to finance an intensified effort by EPA to arrange private financing for hazardous substance release response. The Superfund program staff level will decrease slightly from 624 permanent workyears in 1983 to 619 in 1984.

Explanation of Changes

Management and Support. The funding level for management and support declines slightly in real terms between 1983 and 1984. Expenses in this subprogram include rents, utilities, program analyses, and budget formulation.

Enforcement. Superfund enforcement activities are of three types: technical support, technical enforcement, and legal enforcement. Technical enforcement is the largest component of this subprogram, accounting for 79 percent of the funding request in 1984. The appropriation allocation for technical enforcement increases by 91 percent in real terms from the 1983 level of $8.7 million, and will fund an increased level of negotiating voluntary settlements with responsible parties, developing evidence for litigation in instances where voluntary settlements cannot be negotiated, and recovering costs from responsible parties after expenses have already been incurred by EPA.

Research and Development. The research and development subprogram receives less than 5 percent of the Superfund appropriation in 1983 and 1984. Because the Administration assumes this subprogram will be relatively short-lived, long-term research is not performed. Rather, resources in this subprogram are used to apply research products from other EPA programs to Superfund programs. The funding level of $6.4 million in 1984 for Superfund

TABLE 10. EPA SUPERFUND PROGRAM, 1981-1984 (By fiscal year)

	Actual Obligations		Budget Authority		Percent Change
	1981	1982	1983 (Estimated)	1984 (Requested)	1983-1984
			Millions of Dollars		
Nominal Dollars, Total	40	181	210	310	+48
Constant 1982 Dollars					
Management and Support	2	10	15	14	-4
Enforcement	3	8	14	20	+44
Research and Development	5	14	6	6	-4
Hazardous Substance Response Actions	33	149	166	243	+46
Total	43	181	201	283	+41
			Permanent Full-Time Employees		
Management and Support	3	56	94	91	-3
Enforcement	22	145	212	206	-3
Research and Development	3	26	25	25	0
Hazardous Substance Response Actions	39	238	293	298	+2
Total	67	465	624	619	-1

SOURCE: Congressional Budget Office based on date obtained from EPA.

Note: Percent changes were calculated from annual budget figures before rounding and, therefore, represent actual differences. Budget figures in the table have been rounded to the nearest million and may not produce the same percent differences.

research and development is slightly higher than the 1983 level but represents a 4 percent decrease in real terms.

Hazardous Substance Response Actions. Ongoing activities in this subprogram are EPA hazardous substance response and interagency hazardous substance response. The 1984 funding request for these activities ($265.7 million) reflects a 54 percent real increase over the 1983 level for these two activities. In 1983, an additional appropriation of $10 million was made under this subprogram for a one-year Congressionally mandated inventory program to provide financial assistance to states in assessing and inspecting hazardous waste sites. Interagency activities include policy development, guidance, and training, as well as equipment procurement and maintenance. Funding for these activities accounts for a small portion of the subprogram budget (6 percent in 1983, 3 percent in 1984). EPA hazardous substance cleanup activities constitute the bulk of Superfund efforts. The 63 percent real increase for that category in 1984 reflects a shift in emphasis from policy and guidance development to remedial project design and implementation.

EPA expects that all reported uncontrolled hazardous waste sites will be screened and assessed to reconfirm the priority list order by the end of 1984. Also by the end of 1984, EPA estimates that planning efforts will have been initiated at 130 to 140 sites, and engineering design or remedial action will have begun at about 75 sites.

Outstanding Issues

- The Administration does not intend to continue this program beyond its currently legislated lifetime. Under CERCLA, the excise taxes on oil and chemicals that provide the bulk of Superfund resources expire after 1985, as does the authorization for appropriations to the Superfund from the general fund. The Administration anticipates that 1986 will be the peak year for funding, with appropriation of the remaining balance in the fund occurring over the next couple of years until the fund is exhausted. Thousands of sites require remedial action, and by the end of fiscal year 1982 the agency had initiated cleanup action at only 15 sites. It is not clear that the amount in the fund or the time frame being considered by the Administration is adequate to complete the program. How far the Superfund goes in mitigating the problem of uncontrolled hazardous substance disposal sites depends, in part, on EPA's success in recovering expenses from responsible parties and negotiating with responsible parties to pay for or conduct remedial actions.

- Under CERCLA, no federal remedial action may be initiated in a state unless the state has assured payment of 10 percent of the costs. State budget constraints may make fulfillment of this mandate troublesome and may result in delayed implementation of needed remedial actions. At present, only eight states have mechanisms providing continued funding for the state cost-sharing requirement.