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.