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1. Summary

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ENVIRONMENTAL PROTECTION AGENCY

Justification of Appropriations Estimates for the Committee on Appropriations

FISCAL YEAR 1991

BUDGET SUMMARY

The President's 1991 Budget request for the Environmental Protection Agency's totals $5,580,709,000 supported by 16,761 workyears. These resources include $2,127,000,000 and 12,853 workyears for the Agency's environmental operating programs; $38,709,000 and 350 workyears for the Inspector General's activities; $1,740,000,000 and 3,467 workyears for the Superfund program; $75,000,000 and 90 workyears for the Leaking Underground Storage Tank (LUST) program; and, $1,600,000,000 for the Construction Grants program. When compared with the Agency Total current estimate, the President's request represents an overall increase of $48,246,000 and 919 total workyears. The following chart provides a summary of budget authority for EPA'S eight appropriations:

Budget Authority
(dollars in thousands)

	1990 Enacted	1990 Current Estimate	1991 President's Request	Increase + Decrease - 1990 vs 1991
Salaries & Expenses.....	$861,027	$863,998	$999,700	+$135,702
Office of the Inspt. General..	31,242	30,903	38,709	+7,806
Research & Development...	237,757	229,950	249,000	+19,050
Abatement, Control & Compl.	817,076	796,915	865,300	+68,385
Buildings & Facilities.....	14,768	14,652	13,000	-1,652
OPERATING PROGRAMS Subtotal.....	1,961,870	1,936,418	2,165,709	+229,291
Hazardous Substance Superfund.....	1,550,588	1,530,228	1,740,000	+209,772
Leaking Underground Storage Tanks (LUST)....	74,822	74,097	75,000	+903
Construction Grants (CG).....	2,018,225	1,991,720	1,600,000	-391,720
Subtotal.....	$5,605,505	$5,532,463	$5,580,709	+$48,246
CG rescission of unobligated bal.	-47,700	-43,691 a/	0	+43,691
AGENCY TOTAL(NET)	$5,557,805	$5,488,772	$5,580,709	+$91,937

APPROPRIATIONS HIGHLIGHTS

The 1991 President's Budget Request will provide the necessary resources for the Environmental Protection Agency (EPA) to initiate new program activities while continuing emphasis on accelerating ongoing programs. The Agency will step up concentration on preventing pollution at its source; implementation of the President's proposed "Clean Air Act Amendments of 1989"; realizing the President's goal of strengthening environmental enforcement and ensuring compliance with new and existing statutes; building and maintaining State capacity and a strong State-Federal partnership that is so crucial for effective environmental protection; and, provide for the first time nonpoint source grants for the implementation of state nonpoint source pollution prevention and control strategies. In 1991 the Agency will continue implementation of the recommendations of the 1989 Superfund Management Review (SMR), placing emphasis on an "enforcement first" approach to Superfund cleanup activities as well as increasing response activities as recommended in the SMR.

The following briefly describes the 1991 request, the purpose, and the major changes from the Agency's 1990 estimates for each of EPA's eight appropriations. In addition, in the 1991 request it is proposed that we fund repair and improvement projects under $75,000 from each of the operating program accounts except the Office of the Inspector General.

SALARIES AND EXPENSES

The Agency's 1991 request of $999,700,000 represents an increase of $135,702,000 (16%) over the 1990 current estimate for Salaries and Expenses. This appropriation finances all staff costs associated with administering the environmental operating programs within the Agency's Regional and Headquarters operations. The increase in resources will enable the Agency to continue expanding the Administration's commitment to protecting human health and the environment. These resources incorporates all costs exclusive of grant programs and program-specific contractual agreements.

RESEARCH AND DEVELOPMENT

For 1991 EPA is requesting $249,000,000 for the Research and Development appropriation, an increase of $19,050,000 (8%) over the 1990 current estimate. This appropriation finances research contracts, grants and agreements with universities and private industry, as well as in-house activities, to produce the scientific knowledge and technologies necessary for regulating, preventing and abating pollution. The Agency plans to direct major increases in 1991 toward strengthening the Agency's long-term research capabilities, enhancing global climate change research, addressing research needs of the President's Clean Air Act legislation, and supporting media program needs.

ABATEMENT, CONTROL AND COMPLIANCE

The Agency is requesting $865,300,000 for the Abatement, Control and Compliance appropriation, an increase of $68,385,000 (9%) over the 1990 current estimate. This appropriation finances contracts, grants, and cooperative agreements for pollution abatement, control and compliance activities. The 1991 request includes resources for a new state grant program that will provide states with the financing to replace construction grant set asides until states put in

place alternative funding sources. In addition, the request includes funding for implementation of the President's proposed Clean Air Act legislation. Resources will be used for new activities including training and technical support for state and local governments.

BUILDINGS AND FACILITIES

The Agency is requesting $13,000,000 for the Buildings and Facilities appropriation. This represents a decrease of $1,652,000 (11%) below the 1990 current estimate which is due to the completion of a one-time project. This appropriation finances the construction of new facilities and the repair, improvement, alteration, and purchase of fixed equipment for facilities which the Agency currently leases or owns. The requested level will permit the Agency to continue to ensure healthy and safe working conditions.

HAZARDOUS SUBSTANCE SUPERFUND

This appropriation finances responses at uncontrolled hazardous waste sites and emergency releases of hazardous substances. The President's 1991 Budget request of $1,740,000,000 for Superfund represents an increase of $209,772 (14%) over the 1990 current estimate. This increase represents a strong and continued commitment on the part of the Agency to meet its responsibilities to protect human health and the environment. The 1991 President's Budget continues to implement the Superfund Management Review (SMR) initiatives of "enforcement first", strong cleanup programs, and effective Federal response.

Consistent with the President's "Building a Better America" message and the Agency's emphasis on enforcement efforts, a significant increase of $16 million requested to ensure privately-financed response actions and vigorous pursuit of now settling private parties for cost recovery. The Department of Justice will receive $32.3 million of this request to ensure adequate support for the increasing Superfund caseload. In addition, the Agency will increase the Response program by $196 million. This increase will support the most environmentally significant projects first while balancing the Agency's statutorily mandated actions and ongoing activities.

LEAKING UNDERGROUND STORAGE TANKS (LUST)

The Agency is requesting $75,000,000 in 1991, an increase of $903,000 (1%) above the 1990 current estimate. This appropriation established a response program for the prevention and remediation of releases from leaking underground petroleum storage tanks. The request will maintain the LUST program's momentum and the Agency's strong commitment to building state capacity necessary to protect human health and the environment. The 1991 President's Budget will provide funding for cooperative agreements with states and territories to help them achieve the response and enforcement capacity necessary to implement their own LUST programs.

CONSTRUCTION GRANTS

Fiscal Year 1991 is a transitional year for the Construction Grants program. This year funds for this appropriation will no longer be used to finance grants to local public agencies for construction of municipal wastewater treatment facilities. The 1991 request for this appropriation will finance State

Revolving Funds (SRFs). Once Federal authorization is completed in 1994, together with the State match, SRFs should be self sufficient. SRFs will make loans to local public agencies for construction of municipal wastewater treatment facilities, thereby assisting States and localities in attaining established water quality standards. The President's request of $1,600,000,000 for the Construction Grants appropriation in 1991 represents a decrease of $391,720,000 (20%) below the 1990 current estimate. However, because the mix of Construction Grant and SRF grant change, 1991 will see a $598 million increase (60%) in SRF funding.

Finally, the 1991 request contains $15,700,000 for the U.S. share of the construction costs of an international wastewater treatment plant in San Diego, California to treat Tijuana, Mexico wastewater. These funds will be made available once Mexico agrees to pay all operating and maintenance costs and the full cost of any subsequent expansion of plant capacity.

OFFICE OF THE INSPECTOR GENERAL

The Agency is requesting $38,709,000 for the Office of the Inspector General. Of this amount, $25,027,000 is to be derived from the General Fund, $13,107,000 from the Hazardous Substance Superfund, and $575,000 from the Leaking Underground Storage Tanks Trust Fund. This represents an increase of $7,806,000 (25%) above the 1990 current estimate. With this appropriation the Office of the Inspector General will be able to continue its audits and investigations relating to EPA programs and operations, thereby promoting economy, efficiency, and effectiveness throughout the Agency; prevent and detect fraud and abuse and keep the Administrator and Congress advised of problem areas and related corrective actions as well as review EPA regulations and legislation.

TRANSFER AUTHORITY (Administrative Provision)

The Agency is requesting appropriations transfer authority. The authority would be exclusive of the Trust Funds and Construction Grants appropriations and would be limited to 7 per centum. The 7 percent limit would apply to both the losing and receiving appropriations. This authority will provide the Agency the flexibility it needs to target resources to meet new and emerging environmental priorities and Congressional mandates. In an Agency as complex as EPA, situations frequently arise where changes must be made to priorities established almost 18 months in advance or to methods needed to achieve priorities. The ability to meet the requirements of the Agency's programs will be greatly enhanced with the authority.

a/ The amount shown as rescinded unobligated balances does not include $3,986,884 ordered preserved by the U.S. District Court. The actual amount available for rescission is $47,678,276.

ENVIRONMENTAL PROTECTION AGENCY

Summary of Budget Authority,
Obligations, Outlays, and Workyears
By Appropriation
(dollars in thousands)

	Actual 1989	Enacted 1990	Current Estimate 1990	Request 1991
Salaries and Expenses				
Budget Authority.....	$ 815,000.4	$ 861,026.6	$ 863,998.1	$ 999,700.0
Obligations.....	808,774.9	861,026.6	863,998.1	999,700.0
Outlays.....	834,444.0	833,445.0	836,000.0	969,794.0
Permanent Workyears.....	11,114.0	11,889.2	11,368.7	12,540.5
Total Workyears.....	11,457.6	11,890.2	11,751.2	12,540.5
Research and Development				
Budget Authority.....	$ 202,500.0	$ 237,757.0	$ 229,949.9	$ 249,000.0
Obligations.....	201,325.0	235,581.6	227,878.0	249,521.0
Outlays.....	182,467.0	222,729.0	219,653.0	240,592.0
Abatement, Control, and Compliance				
Budget Authority.....	$ 719,625.3	$ 817,076.0	$ 796,914.6	$ 865,300.0
Obligations.....	706,387.0	828,249.2	807,943.0	863,659.0
Outlays.....	623,190.0	783,670.0	775,802.0	832,359.0
Buildings and Facilities				
Budget Authority.....	$ 8,000.0	$ 14,768.0	$ 14,652.0	$ 13,000.0
Obligations.....	6,592.7	24,543.6	24,723.0	13,000.0
Outlays.....	15,118.0	19,453.0	19,436.0	12,942.0
Office of Inspector General				
Budget Authority.....	$ 0.0	$ 31,242.3	$ 30,903.3	$ 38,709.0
Obligations.....	0.0	31,242.3	30,903.3	38,709.0
Outlays.....	0.0	18,745.0	18,542.0	30,951.0
Permanent Workyears.....	0.0	310.6	310.6	350.4
Total Workyears.....	0.0	310.6	310.6	350.4
Scientific Activities Overseas				
Obligations.....	$ 0.0	$ 0.0	$ 0.0	$ 0.0
Outlays.....	49.0	250.0	250.0	250.0

	Actual 1989	Enacted 1990	Current Estimate 1990	Request 1991
SUBTOTAL, OPERATING PROGRAMS				
Budget Authority.....	$1,745,125.7	$1,961,869.9	$1,936,417.9	$2,165,709.0
Obligations.....	1,723,079.6	1,980,643.3	1,955,445.4	2,164,589.0
Outlays.....	1,655,268.0	1,878,292.0	1,869,683.0	2,086,888.0
Permanent Workyears.....	11,114.0	12,199.8	11,679.3	12,890.9
Total Workyears.....	11,457.6	12,200.8	12,061.8	12,890.9
Hazardous Substance Superfund				
Budget Authority.....	$1,410,000.0	$1,550,588.1	$1,530,228.1	$1,740,000.0
Obligations.....	1,543,719.5	1,598,039.3	1,578,322.0	1,740,000.0
Outlays.....	958,195.0	1,328,814.0	1,324,538.0	1,520,333.0
Permanent Workyears.....	2,424.0	2,967.2	3,345.7	3,467.2
Total Workyears.....	2,796.4	3,467.2	3,467.2	3,467.2
LUST Trust Fund				
Budget Authority.....	$ 50,000.0	$ 74,822.1	$ 74,097.0	$ 75,000.0
Obligations.....	50,875.4	78,279.6	77,555.0	75,000.2
Outlays.....	32,859.0	35,707.0	35,489.0	49,299.0
Permanent Workyears.....	81.0	91.3	85.7	90.4
Total Workyears.....	82.4	91.3	91.3	90.4
Construction Grants				
Budget Authority.....	$1,950,000.0	$2,018,225.0	$1,991,720.0	$1,600,000.0
Obligations.....	2,531,237.0	2,305,233.0	2,305,233.0	1,697,930.0
Outlays.....	2,349,827.0	2,363,092.0	2,362,668.0	2,338,857.0
Operations, Research and Facilities				
Obligations.....	$ 0.0	$ 50.0	$ 50.0	$ 50.0
Outlays.....	0.0	250.0	250.0	250.0
Tolerances Revolving Fund				
Obligations.....	$ 806.7	$ 1,000.0	$ 1,000.0	$ 1,000.0
Outlays.....	(293.0)	(200.0)	(200.0)	(200.0)

	Actual 1989	Enacted 1990	Current Estimate 1990	Request 1991
Misc. Contrib. Funds				
Obligations.....	$ 4.3	$ 10.0	$ 10.0	$ 10.0
Outlays.....	2.0	10.0	10.0	10.0
Reregistration & Expedited Processing Revolving Fund				
Obligations.....	$ 5,303.6	$ 33,851.0	$ 33,851.0	$ 18,000.0
Outlays.....	(16,040.0)	(11,000.0)	(11,000.0)	7,100.0
Permanent Workyears.....	132.0	0.0	148.0	238.5
Total Workyears.....	33.6	0.0	148.0	238.5
Reimbursements - S&E				
Obligations.....	$ 15,751.7	$ 20,000.0	$ 19,947.0	$ 20,000.0
Permanent Workyears.....	67.0	74.0	74.0	74.0
Total Workyears.....	66.6	74.0	74.0	74.0
Reimbursements-Superfund				
Obligations.....	$ 6,787.0	$ 30,000.0	$ 29,815.0	$ 30,000.0
Reimbursements-R&D				
Obligations.....	$ 3,444.3	$ 5,000.0	$ 5,000.0	$ 5,000.0
Reimbursements-AC&C				
Obligations.....	$ 0.0	$ 0.0	$ 0.0	$ 5,000.0
TOTAL, EPA				
Budget Authority.....	$5,155,125.7	$5,605,505.1	$5,532,463.0	$5,580,709.0
Obligations.....	5,881,009.1	6,052,106.2	6,006,228.4	5,756,579.2
Outlays.....	4,979,818.0	5,594,965.0	5,581,438.0	6,002,537.0
Permanent Workyears.....	13,818.0	15,332.3	15,332.7	16,761.0
Total Workyears.....	14,436.6	15,833.3	15,842.3	16,761.0

Summary of Budget Authority,
Obligations, Outlays, and Workyears
By Media
(dollars in thousands)

	Actual 1989	Enacted 1990	Current Estimate 1990	Request 1991
Air				
Budget Authority.....	$ 268,368.5	$ 294,000.9	$ 288,924.8	$ 389,791.0
Obligations.....	267,314.6	291,008.6	288,796.0	388,384.0
Outlays.....	268,535.0	290,932.9	289,614.3	385,203.0
Permanent Workyears.....	1,598.9	1,756.9	1,704.3	1,984.6
Total Workyears.....	1,680.4	1,756.9	1,739.4	1,984.6
Water Quality				
Budget Authority.....	$ 289,822.2	$ 350,292.2	$ 345,339.5	$ 379,096.5
Obligations.....	285,340.7	355,063.1	350,177.0	378,871.0
Outlays.....	270,382.5	334,643.9	333,127.9	358,749.0
Permanent Workyears.....	2,010.7	2,283.0	2,125.0	2,311.8
Total Workyears.....	2,142.8	2,284.0	2,215.9	2,311.8
Drinking Water				
Budget Authority.....	$ 108,264.3	$ 122,399.3	$ 120,796.3	$ 132,637.3
Obligations.....	106,809.6	122,356.1	121,059.0	132,592.0
Outlays.....	111,414.4	124,177.3	123,615.1	133,914.3
Permanent Workyears.....	673.8	766.7	743.9	810.2
Total Workyears.....	716.0	766.7	768.0	810.2
Hazardous Waste				
Budget Authority.....	$ 267,576.6	$ 273,787.5	$ 269,296.0	$ 317,144.1
Obligations.....	262,638.4	277,264.3	273,315.0	316,795.0
Outlays.....	253,744.5	264,578.8	263,380.1	307,477.6
Permanent Workyears.....	1,372.2	1,523.0	1,432.9	1,634.7
Total Workyears.....	1,452.3	1,523.0	1,490.1	1,634.7
Pesticides				
Budget Authority.....	$ 118,662.1	$ 106,932.2	$ 104,765.7	$ 110,072.7
Obligations.....	117,961.3	106,341.2	104,303.0	110,118.0
Outlays.....	87,286.2	94,978.6	94,548.0	99,856.8
Permanent Workyears.....	795.7	853.3	957.3	1,091.7
Total Workyears.....	845.3	853.3	990.9	1,091.7

	Actual 1989	Enacted 1990	Current Estimate 1990	Request 1991
Radiation				
Budget Authority.....	$ 24,626.9	$ 35,862.8	$ 35,071.5	$ 39,109.7
Obligations.....	24,744.1	35,528.6	34,849.0	38,602.0
Outlays.....	22,383.1	31,472.9	31,330.5	35,040.9
Permanent Workyears.....	184.1	220.2	214.2	240.8
Total Workyears.....	194.0	220.2	216.8	240.8
Noise				
Budget Authority.....	$ 0.0	$ 0.0	$ 0.0	$ 0.0
Obligations.....	0.0	0.0	0.0	0.0
Outlays.....	12.2	0.0	0.0	0.0
Multimedia				
Budget Authority.....	$ 80,339.0	$ 123,625.4	$ 126,861.2	$ 166,419.4
Obligations.....	79,864.2	122,883.2	122,626.0	166,069.0
Outlays.....	66,049.9	115,606.1	115,082.1	153,027.4
Permanent Workyears.....	597.7	773.0	721.1	841.5
Total Workyears.....	640.9	773.0	742.3	841.5
Toxic Substances				
Budget Authority.....	$ 144,578.0	$ 158,368.6	$ 155,862.8	$ 113,439.0
Obligations.....	143,120.0	157,537.5	155,212.0	114,439.0
Outlays.....	143,200.2	140,097.6	139,462.9	104,527.4
Permanent Workyears.....	815.9	906.6	865.4	886.2
Total Workyears.....	862.0	906.6	876.1	886.2
Energy				
Budget Authority.....	$ 54,735.7	$ 33,480.8	$ 32,171.9	$ 14,256.7
Obligations.....	54,478.9	33,555.0	32,822.0	14,730.0
Outlays.....	57,314.6	45,735.0	45,527.6	28,502.8
Permanent Workyears.....	62.8	52.4	51.8	30.4
Total Workyears.....	67.2	52.4	51.8	30.4
Management and Support				
Budget Authority.....	$ 380,152.4	$ 423,427.7	$ 418,029.3	$ 477,061.2
Obligations.....	374,215.1	429,639.5	422,916.6	477,307.2
Outlays.....	359,827.4	396,256.0	394,460.5	456,922.8
Permanent Workyears.....	2,700.3	2,996.9	2,943.6	3,209.2
Total Workyears.....	2,894.3	2,996.9	3,050.7	3,209.2

	Actual 1989	Enacted 1990	Current Estimate 1990	Request 1991
Buildings and Facilities				
Budget Authority.....	$ 8,000.0	$ 14,768.0	$ 14,652.0	$ 13,000.0
Obligations.....	6,592.7	24,543.6	24,723.0	13,000.0
Outlays.....	15,118.0	19,543.0	19,436.0	12,942.0
Hazardous Substance Superfund				
Budget Authority.....	$1,410,000.0	$1,560,745.0	$1,540,286.0	$1,753,106.4
Obligations.....	1,543,719.5	1,608,194.3	1,588,379.8	1,753,107.0
Outlays.....	958,195.0	1,334,907.0	1,330,631.0	1,530,711.0
Permanent Workyears.....	2,621.5	3,035.0	3,413.5	3,552.0
Total Workyears.....	2,799.4	3,535.0	3,535.0	3,552.0
LUST Trust Fund				
Budget Authority.....	$ 50,000.0	$ 74,822.0	$ 74,097.0	$ 75,575.0
Obligations.....	50,875.4	78,279.6	77,555.0	75,575.0
Outlays.....	32,859.0	35,707.0	35,489.0	49,645.0
Permanent Workyears.....	77.7	91.3	85.7	93.9
Total Workyears.....	82.4	91.3	91.3	93.9
Construction Grants				
Budget Authority.....	$1,950,000.0	$2,018,225.0	$1,991,720.0	$1,600,000.0
Obligations.....	2,531,237.0	2,305,233.0	2,305,233.0	1,697,930.0
Outlays.....	2,349,827.0	2,363,092.0	2,362,668.0	2,338,857.0
Operations, Research and Facilities				
Obligations.....	$ 0.0	$ 50.0	$ 50.0	$ 50.0
Outlays.....	0.0	250.0	250.0	250.0
Tolerances Revolving Fund				
Obligations.....	$ 806.7	$ 1,000.0	$ 1,000.0	$ 1,000.0
Outlays.....	(293.0)	(200.0)	(200.0)	(200.0)
Misc. Contrib. Funds				
Obligations.....	$ 4.3	$ 10.0	$ 10.0	$ 10.0
Outlays.....	2.0	10.0	10.0	10.0

	Actual 1989	Enacted 1990	Current Estimate 1990	Request 1991
Reregistration & Expedited Processing Revolving Fund				
Obligations.....	$ 5,303.6	$ 33,851.0	$ 33,851.0	$ 18,000.0
Outlays.....	(16,040.0)	(11,000.0)	(11,000.0)	7,100.0
Reimbursements - S&E				
Obligations.....	$ 15,751.7	$ 20,000.0	$ 19,947.0	$ 20,000.0
Permanent Workyears.....	64.9	74.0 **	74.0 **	74.0 **
Total Workyears.....	66.6	74.0 **	74.0 **	74.0 **
Reimbursements-Superfund				
Obligations.....	$ 6,787.0	$ 30,000.0	$ 29,815.0	$ 30,000.0
Reimbursements-R&D				
Obligations.....	$ 3,444.3	$ 5,000.0	$ 5,000.0	$ 5,000.0
Reimbursements-AC&C				
Obligations.....	$ 0.0	$ 0.0	$ 0.0	$ 5,000.0
TOTAL, EPA				
Budget Authority.....	$5,155,125.7	$5,605,505.0 *	$5,532,463.0 *	$5,580,709.0
Obligations.....	5,881,009.1	6,052,106.2 *	6,006,228.4 *	5,756,579.2
Outlays.....	4,979,818.0	5,594,965.0 *	5,581,438.0 *	6,002,537.0
Permanent Workyears.....	13,576.2	15,332.3	15,332.7	16,761.0
Total Workyears.....	14,443.6	15,833.3	15,842.3	16,761.0

* Enacted 1990 BA and Obligation totals include $14,767.6 in undistributed funds. 1990 Current Estimate BA and Obligation totals include $14,589.0 in undistributed funds. Enacted 1990 Outlays include $14,176.9/1990 Current Estimate outlays include $14,005.0 in undistrubuted funds.

** Includes 12 FTE for Ocean Dumping (10 in Water Quality and 2 in Multimedia).

2. Air

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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AIR

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
APPROPRIATION					
Salaries & Expenses	$89,690.1	$93,273.1	$92,635.8	$121,175.5	$28,539.7
Abatement Control and Compliance	$135,430.4	$146,552.0	$144,652.4	$204,196.7	$59,544.3
Research & Development	$42,194.1	$54,175.8	$51,636.6	$64,418.8	$12,782.2
TOTAL, Air	$267,314.6	$294,000.9	$288,924.8	$389,791.0	$100,866.2
PERMANENT WORKYEARS	1,598.9	1,756.9	1,704.3	1,984.6	280.3
TOTAL WORKYEARS	1,680.4	1,756.9	1,739.4	1,984.6	245.2
OUTLAYS	$268,535.0	$290,932.9	$289,614.3	$385,203.0	$95,588.7
AUTHORIZATION LEVELS	Reauthorization for the Clean Air Act expired September 30, 1981. Reauthorization is pending.				

OVERVIEW AND STRATEGY

The Clean Air Act authorizes a nationwide program of air quality planning, regulation, enforcement, and research to control air pollution. A revised Clean Air Act will be passed during 1990. This budget request is based on the amendments sent to Congress by President Bush in July 1989. In 1991 EPA will focus on development of the regulations, guidelines, and support infrastructure needed to implement the expected new legislation and achieve six major goals: (1) achieve National Ambient Air Quality Standards (NAAQSs) to protect public health; (2) implement an acid deposition control program; (3) address the growing problems of global change and indoor air pollution; (4) reduce the risk of exposure to air toxics; (5) increase the capacity and improve the effectiveness of state and local air quality agencies; and (6) conduct research to provide a strong scientific and technical basis for regulatory programs. In its efforts to achieve these goals, EPA will place increased emphasis on pollution prevention activities.

Achieve NAAQSs Nationwide

Establishing NAAQSs at levels that protect public health and prevent other adverse effects has been the keystone of the national air quality program. The NAAQSs are revised based on the results of regular assessments of the most current scientific data on health and other effects of various air pollutants. In 1991 EPA plans to promulgate revised or reaffirmed NAAQSs for sulfur dioxide and propose revised or reaffirmed NAAQSs for lead and ozone.

To achieve NAAQSs, EPA helps states complete and enforce State Implementation Plans (SIPs) as required by the Clean Air Act. Although air quality has generally improved as a result of SIP measures, many SIPs have proven inadequate for meeting NAAQSs by statutory deadlines. Expected revisions to the Clean Air Act will address this problem.

The NAAQSs for ozone and carbon monoxide have proven to be the most difficult standards to meet. Currently, over 135 million people live in areas that failed to meet the standards. As a result, EPA has asked the states to revise their SIPs in 97 areas that failed to meet the ozone NAAQS and in 54 areas that failed to meet the carbon monoxide NAAQS. In 1991 EPA will provide guidance and regulations needed to attain the NAAQSs by the target dates specified in the expected revised Clean Air Act. EPA will continue to focus on ensuring compliance with SIP calls issued in May 1988 and November 1989. EPA and state and local agencies will require significant resources to implement expanded Clean Air Act requirements.

EPA will continue to develop control techniques guidelines (CTGs) for new source categories of volatile organic compounds (VOCs), which are ozone precursors. EPA will assess the need for additional federal control measures. EPA and the states will continue to carry out a comprehensive enforcement program aimed at achieving continuous compliance by stationary sources, primarily those emitting VOCs.

Another element of the strategy for attaining ozone and carbon monoxide NAAQSs provides for continued reduction in emissions from in-use motor vehicles. A substantial amount of the additional ozone precursor reduction required by the expected revisions to the Clean Air Act will come from continued enforcement of existing and new mobile source standards and through the use of clean fuels. To ensure that vehicles meet emission standards throughout their useful life, EPA will continue to maintain a comprehensive Federal compliance program. The program includes preproduction certification of emission control systems; selective enforcement audits at manufacturers' facilities; and recalls of insufficiently controlled vehicles. The Agency will continue to work with states to establish and maintain effective vehicle inspection/maintenance and anti-tampering programs.

In 1991 EPA will begin to implement expected revisions to the Clean Air Act for mobile sources. EPA will continue to develop new light-duty and heavy-duty vehicle emissions standards and begin to evaluate alternative clean fuels such as oxygenated blends and compressed natural gas. The Agency will also assess the effectiveness of clean technologies to reduce emissions of carbon monoxide under cold temperature conditions.

EPA will continue to help states develop SIPs for attaining the revised NAAQSs for PM-10 and will review SIPs submitted by states as required under the Clean Air Act. Approximately 170 areas will not meet, or have the potential for not meeting, the revised PM-10 standards. Expected revisions to the Clean Air Act will establish new attainment dates for PM-10. In 1991 the PM-10 program will focus on developing and reviewing SIPs, especially for newly identified nonattainment areas. EPA will develop mitigation strategies for problems contributing to long-term PM-10 nonattainment, including measures to control woodstoves and other nontraditional sources. EPA will continue to develop Federal Implementation Plans (FIPs) consistent with requirements of litigation and new legislation.

Implement an Acid Deposition Control Program

In 1991 EPA will begin to implement expected revisions to the Clean Air Act that establish new requirements for control of acid deposition. The proposed revisions require reductions of 10 million tons of sulfur dioxide and 2 million tons of nitrogen oxides. Five million tons of reduction are to occur by the end of 1995 (Phase I). The proposal also establishes a system of emission allowances and marketable permits to allow maximum flexibility for utilities to achieve required reductions in the most efficient and least costly manner.

In 1991 EPA will focus on development of guidance and regulations needed to implement the proposed new requirements. These include developing regulations governing: the issuance, trading and banking of allowances; continuous monitoring of emissions; participation of industrial sources in the allowance system; and Federally-issued Phase I permits. EPA will also develop an emissions/allowance tracking system to facilitate free and open trading.

EPA will continue to provide advice and assistance to the Department of Energy's Clean Coal Technology Program and develop energy conservation measures to reduce and control acid deposition pollutants.

Address Growing Problems: Global Change and Indoor Air Quality

Global Change. The Clean Air Act gives the Administrator of EPA authority to protect the stratosphere. EPA will continue its role in Federal efforts aimed at confronting ozone depletion, climate change related to stratospheric alterations, and other effects and emissions caused by stratospheric change. Under the Montreal Protocol on Substances that Deplete the Ozone Layer, currently signed by the United States and 46 other nations, EPA will implement and enforce domestic rules, support international implementation of rules and policies under the Protocol, carry out risk and economic assessments to monitor progress under the Protocol, and share information on technology development and alternative chemicals to curtail ozone depletion and minimize global warming trends. In 1991 EPA will develop rules on trade with non-participating nations. EPA will develop methods for inspection of imported goods and transfer of non-CFC using technologies to lesser developed countries. EPA will also emphasize administration of ozone depleting chemical allocations.

Indoor Air Quality. Research completed by EPA and others indicates that health risks are caused by total exposure to air pollutants and not just from ambient exposures. Elevated levels of certain indoor air pollutants may pose a substantial threat to human health. In 1991 EPA will continue to provide policy direction to the indoor air quality research program; will disseminate information to broad segments of the public on risks and ways to mitigate indoor air quality problems; and will coordinate its activities with other EPA programs, other Federal agencies, states, and the private sector. In 1991 EPA will further examine the extent of the "sick building syndrome," will initiate the establishment of an Indoor Air Quality Technical and Non-Technical Clearinghouse, issue manuals on building investigations, issue a physicians handbook, and complete indoor air quality training programs for state and local government officials.

Reduce Risk of Exposure to Air Toxics

In 1991 EPA will begin to implement expected revisions to the Clean Air Act to reduce the risk of exposure to air toxics by regulating source categories. The Agency estimates that 2.7 billion pounds of toxic chemicals are emitted into the air each year and that these emissions contribute to a substantial number of fatal cancers annually. Work will concentrate on development of a list of major source categories of 191 pollutants and initiation of work on developing maximum achievable control technology (MACT) for ten source categories to meet the two-year requirement of the proposed new legislation.

In 1991 EPA will develop regulations for emissions from treatment, storage and disposal facilities. EPA will continue its efforts to control motor vehicle emissions and fuels which are major components of toxic air pollutants. The Agency will help states develop and enhance multi-year development plans and will provide assistance in evaluating and regulating high risk point sources and multi-pollutant urban toxics problems.

Strengthen State and Local Programs

In 1991 EPA will devote substantial effort toward increasing the capacity of state and local air pollution control agencies and leveraging the effects of its own resources. EPA will provide states with guidance and regulations needed

to implement expected new requirements for operating permits. These will include model permits, standard application forms, fee recovery requirements, and monitoring/reporting requirements.

The Agency will continue to support state and local air pollution control programs by providing direct program assistance and training and by facilitating information exchange. EPA will share information through the Control Technology Center and clearinghouses that provide information on air toxics, emission factors, control technology, and risk. EPA will also assist states with model application, data base development, and model documentation to support ozone, carbon monoxide, and PM-10 SIP analyses and attainment demonstrations.

Conduct Research to Provide a Strong Scientific and Technical Basis for Regulatory Programs

EPA's air quality research and development program provides the scientific and engineering basis for sound regulatory decision-making. The Office of Research and Development (ORD) provides health and ecological effects data, monitoring methods and support, pollutant transport models, assessment of emission reduction technologies, and quality assurance to help meet the Agency's public information needs.

In 1991 EPA is expanding its research on the causes and transport of ozone, particularly with respect to the role of biogenic emissions and other factors that may influence ozone formation. The regional oxidant model (ROM) will be extended from the Northeast to apply to the Southeast.

Other areas of research emphasis in 1991 include global climate change, indoor air quality, clean fuels, and acid aerosols. In addition, ORD will undertake an enhanced emissions inventory program for air toxics which will compile available data on a national basis and provide improved emissions information to policy-makers.

Pollution Prevention Initiatives

In 1991 the air program will undertake or participate in seven projects designed to prevent pollution. These include: working with states to encourage utility planning with consideration of energy efficiency and conservation; defining health and environmental risks associated with alternative consumer products; examining options to limit production and use of lead and encourage recycling of lead acid batteries; improving emerging VOC control methods for area and small sources; promoting and institutionalizing pollution prevention in air permit programs; evaluating methods to address industrial pollution prevention through regulation and outreach; and promoting pollution prevention requirements in enforcement settlements. EPA will also incorporate pollution prevention in its regulations when appropriate.

Consulting Services

The Office of Air and Radiation will fund a limited amount of consulting services in 1991. Section 117 of the Clean Air Act requires consultation with appropriate advisory committees prior to publishing any NSPS or NESHAP. The National Air Pollution Control Techniques Advisory Committee is comprised of members from industry, environmental groups, academia, and state/local

governments. The committee typically meets three or four times per year to review the technical basis of Federal emission standards.

A few small management service contracts will be awarded in 1991. The purpose of these contracts will be to provide specialized expertise in environmental economics needed to assess the economic impacts and benefits of various NSPS, NESHAP, and NAAQS regulatory actions. The assessment of economic impacts and benefits is required by Executive Order 12291.

AIR

PROGRAM ACTIVITIES	ACTUAL 1989	CURRENT ESTIMATE 1990	ESTIMATE 1991	INCREASE (+) DECREASE (-) 1991 VS 1990
National Ambient Air Quality Standards				
Number of Pollutants Covered (Cumulative) .	6	6	6	--
Proposals*	1	0	2	+2
Promulgations*	0	0	1	+1
New Source Performance Standards				
Source Categories Covered (Cumulative) .	59	66	68	+2
Proposals**	0	3	0	-3
Promulgations	3	7	1	-6
National Emission Standards for Hazardous Air Pollutants				
Number of Source Categories Covered (Cumulative) .	31	37	37	--
Number of Pollutants Covered (Cumulative) .	6	7	7	--
Proposals**	4	4	6	+2
Promulgations	5	7	0	-7
Enforcement Actions - Stationary Sources				
Inspections	2,445	1,868	1,868	--
Notices of Violation . .	296	300	300	--
Administrative Orders . .	262	225	225	--
Civil Litigation	103	86	86	--
Criminal Litigation . . .	6	10	10	--
Enforcement Actions - Mobile Sources				
State and Local Tampering/ Fuel Switching Programs (Cumulative)	45	45	45	--
Assembly Line Testing Test Orders	21	19	19	--
Recall Investigations . .	27	25	25	--
Notices of Violation Tampering/Fuel Switching	417	520	615	+95

* Revisions or reaffirmations

** New source categories and revisions. NESHAPs include air toxic standards developed under other regulatory authorities

NOTE: All outputs are incremental except as indicated.

Research and Development

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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AIR
Air Research

PROGRAM	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
Scientific Assessment - Air					
Salaries & Expenses	$3,079.6	$2,948.7	$2,929.0	$3,531.1	$602.1
Research & Development	$2,173.0	$2,182.6	$2,324.2	$3,552.5	$1,228.3
TOTAL	$5,252.6	$5,131.3	$5,253.2	$7,083.6	$1,830.4
Monitoring Systems And Quality Assurance - Air					
Salaries & Expenses	$6,290.6	$6,246.1	$6,049.2	$6,466.7	$417.5
Research & Development	$6,322.3	$6,246.7	$5,852.9	$7,707.0	$1,854.1
TOTAL	$12,612.9	$12,492.8	$11,902.1	$14,173.7	$2,271.6
Health Effects - Air					
Salaries & Expenses	$7,422.4	$6,688.6	$6,544.1	$7,193.0	$648.9
Research & Development	$13,424.5	$18,089.0	$16,475.3	$14,624.5	-$1,850.8
TOTAL	$20,846.9	$24,777.6	$23,019.4	$21,817.5	-$1,201.9
Environmental Engineering And Technology - Air					
Salaries & Expenses	$3,376.5	$3,965.6	$3,669.5	$4,180.3	$510.8
Research & Development	$3,035.2	$5,023.6	$4,919.6	$5,802.2	$882.6
TOTAL	$6,411.7	$8,989.2	$8,589.1	$9,982.5	$1,393.4
Environmental Processes And Effects - Air					
Salaries & Expenses	$745.7	$938.4	$925.9	$1,253.0	$327.1
Research & Development	$1,277.1	$1,280.9	$1,246.8	$1,633.3	$386.5
TOTAL	$2,022.8	$2,219.3	$2,172.7	$2,886.3	$713.6
Characterization, Transport And Fate - Air					
Salaries & Expenses	$3,733.1	$3,655.9	$3,535.3	$3,962.1	$426.8
Research & Development	$7,269.9	$8,203.5	$7,930.4	$9,021.8	$1,091.4
TOTAL	$11,003.0	$11,859.4	$11,465.7	$12,983.9	$1,518.2
Stratospheric Modification Program - Air					
Salaries & Expenses	$895.9	$2,021.7	$2,518.6	$3,922.5	$1,403.9
Research & Development	$8,692.1	$13,149.5	$12,887.4	$22,077.5	$9,190.1
TOTAL	$9,588.0	$15,171.2	$15,406.0	$26,000.0	$10,594.0
TOTAL:					
Salaries & Expenses	$25,543.8	$26,465.0	$26,171.6	$30,508.7	$4,337.1
Research & Development	$42,194.1	$54,175.8	$51,636.6	$64,418.8	$12,782.2
Air Research TOTAL	$67,737.9	$80,640.8	$77,808.2	$94,927.5	$17,119.3

AIR
Air Research

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PERMANENT WORKYEARS					
Scientific Assessment - Air	46.1	49.1	49.1	53.4	4.3
Monitoring Systems And Quality Assurance - Air	107.9	102.0	100.5	101.5	1.0
Health Effects - Air	99.1	115.0	114.0	113.0	-1.0
Environmental Engineering And Technology - Air	56.5	57.5	56.4	58.4	2.0
Environmental Processes And Effects - Air	13.2	13.8	13.8	13.8	0.0
Characterization, Transport And Fate - Air	54.6	56.5	55.0	57.0	2.0
Stratospheric Modification Program - Air	13.2	30.9	30.9	42.9	12.0
TOTAL PERMANENT WORKYEARS	390.6	424.8	419.7	440.0	20.3
TOTAL WORKYEARS					
Scientific Assessment - Air	47.9	49.1	49.1	53.4	4.3
Monitoring Systems And Quality Assurance - Air	109.0	102.0	100.5	101.5	1.0
Health Effects - Air	111.7	115.0	114.0	113.0	-1.0
Environmental Engineering And Technology - Air	56.9	57.5	56.4	58.4	2.0
Environmental Processes And Effects - Air	14.3	13.8	13.8	13.8	0.0
Characterization, Transport And Fate - Air	54.7	56.5	55.0	57.0	2.0
Stratospheric Modification Program - Air	13.2	30.9	30.9	42.9	12.0
TOTAL WORKYEARS	407.7	424.8	419.7	440.0	20.3

AIR

Air Quality Research

Principal Outputs by Objective

Objective 1: Provide Scientific Support to Develop and Review Primary and Secondary National Ambient Air Quality Standards (NAAQS).

1991:
- o External Review Draft (ERD) of the nitrogen oxides Air Quality Criteria Document (AQCD) for CASAC review (Scientific Assessment).
- o Assessment of the pulmonary health effects of inhaled acid aerosols in animals (Health).
- o Procurement in Improved Methods for Measuring Ambient Aerosols (Monitoring).

1990:
- o Prepared External Review Drafts (ERD) for the nitrogen oxides and carbon monoxide Air Quality Criteria Documents (AQCD) (Scientific Assessment).
- o Report on aerosol sources for the Eastern U.S. (Characterization).
- o Report on response of the human respiratory tract to acute exposure to acid aerosols (Health).
- o Report on Analysis of Eastern US Visibility Data (Monitoring).

1989:
- o Completed supplement to the AQCD for ozone and other photochemical oxidants (Scientific Assessment).
- o Report on the effects of prolonged exposure (greater than six hours) to ozone at or below current one-hour NAAQS (Health).
- o Publication of a comprehensive research plan to determine the effects of tropospheric ozone on U.S. forests (Environmental Processes).

Objective 2: Provide Scientific Support to Develop New Source Performance Standards (NSPS) and State Implementation Plans (SIPs).

1991:
- o A assessment report on the role of consumer/commercial solvents in ozone non-attainment, including emissions reductions approaches for highest volume sources (Engineering).
- o Joint Symposium on Stationary Combustion NOx Control (Engineering).
- o Summary report on control strategy application of Regional Oxidant Model for the Regional Oxidant Modeling Northeast Transport (ROMNET)

program (Monitoring).

1990: o Report on the application of conventional particulate control technology in major areas of concern (Engineering).

o Evaluation of the Regional Oxidant Model (ROM) using analytical test data and new air quality data (Characterization).

o Report on area volatile organic compound (VOC) sources and control options to support the Agency's post-1987 ozone non-attainment strategy (Engineering).

1989: o Report on the development of an advanced process which utilizes calcium silicate sorbents (ADVACATE) to control acid gases from combustion sources (Engineering).

o Report on recommended modifications to the Complex Terrain Dispersion Model (Characterization).

Objective 3: Provide Scientific Support to Develop Regulations for Hazardous Air Pollutants (HAPs).

1991: o External Review Draft (ERD) on the diesel risk assessment (Scientific Assessment).

o Development of a physiologically based-pharmacokinetic model for predicting dosimetry of volatile organic compounds in humans (Health).

o Report on development of a secondary combustion woodstove for reducing particulate emissions to or below the 1990 NSPS (Engineering).

o Article on source apportionment of mutagenic activity in fine particle organics identified in Boise, Idaho field study (Monitoring).

1990: o Report on retrofit technology for existing woodstoves (Engineering).

o Report on Boise field study of woodstove emissions (Engineering).

o Assessment of the contribution of wood burning and automobile emissions to the mutagenicity and carcinogenicity of airborne pollutants (Health).

1989: o Assessment of the comparative mutagenicity and carcinogenicity of combustion source emissions (Health).

o Report on identities of HAPs produced in the atmosphere from ubiquitous innocuous pollutants (Characterization).

Objective 4: Provide Scientific Support for the Mobile Source Regulatory Program.

1991: o Studies on the DNA adduct dosimetry of the particulate organic

emissions from mobile sources (Health).

1990: o Journal article characterizing tailpipe, evaporative, and refueling emissions from gasoline fueled automobiles (Characterization).

o Assessment of the contribution of mobile source emissions to the genotoxicity of ambient urban aerosol mixtures (Health).

1989: o Report on population exposure to mobile source pollutants for 1988 (Monitoring).

o Journal article evaluating emissions from diesels equipped with advanced emission control technology (Characterization).

o Report on the effects of atmospheric transformation on the mutagenicity of gaseous gasoline emissions (Health).

Objective 5: Provide Scientific Data on the Sources, Exposures, and Health Effects Associated with Indoor Air Pollutants and Evaluate Control Strategies.

1991: o Model indoor air risk assessment (Scientific Assessment).

o Report on the effects from inhalation of chemical mixtures found in indoor environments (Health).

o Research report on biocontaminant control by humidity control systems, air cleaners, and biocides (Engineering).

o Report on indoor air pollutant "sinks" (Engineering).

1990: o Report assessing the potential carcinogenicity of combustion emissions from unvented indoor kerosene heaters (Health).

o Research report on low emission materials and products (Engineering).

o Research report on kerosene heater emissions (Engineering)

1989: o Report on human clinical studies assessing the effects of exposure to volatile organic compounds found indoors (Health).

o Develop personal computer model for evaluating indoor air quality control options (Engineering).

o Report on the Effectiveness of Air Cleaners for IAQ Control (Engineering).

Objective 6: Provide Scientific Data to Determine the Effects of Stratospheric Ozone Depletion and Evaluate Control Strategies

1991: o Preliminary results of work on the effects of UV-B radiation on human immunosuppression (Health).

- o Report on status of alternatives to halons as fire extinguishants (Engineering).

- o Status report on alternatives for insulation which do not use CFC's (Engineering).

- o Establish data base for N_2O emissions from a variety of stationary combustion sources including the potential for plume formation (Engineering).

- o Report on selected UV-B effects on wetland rice ecosystems (Stratospheric Modification).

1990: o Report on the effects of UV-B radiation on rice yield (Stratospheric Modification).

- o Development of a predictive UV-B dose response model for commercially important fish (Stratospheric Modification).

- o Report on status of alternative refrigerants for home refrigerators (Engineering).

1989: o Biennial Congressional Report on ozone depletion which is required by the Clean Air Act (Stratospheric Modification).

- o Report on the most important fisheries resources likely to be affected by UV-B radiation, both in terms of resource significance and sensitivity (Stratospheric Modification).

- o Development of a prioritized list of research projects to evaluate the health effects associated with UV-B radiation (Health).

- o Engineering evaluations of controls and technical support for international negotiations on stratospheric ozone modification (Engineering).

Objective 7: Provide Scientific Data to Determine the Effects of Global Warming and Evaluate Control Strategies

1991: o Report of development of improved emission factors for methane for selected anthropogenic sources (Engineering).

- o Report on the sensitivity of forest regions, worldwide, to global change (Stratospheric Modification).

- o Report on processes that control emissions of radiatively important trace gases from biosphere (Stratospheric Modification).

- o Report on practical and beneficial techniques for mitigation of trace gases emissions (Stratospheric Modification).

1990: o Report on estimation of the relative importance of major forest types as sources and sink for radiatively important trace gases

(Stratospheric Modification).

- o Evaluate feedbacks from ecosystem and land-use changes, including changes in tropical forests, to changes in climate (Stratospheric Modification).

- o Report on soil microbial processes relating radiatively important trace gas fluxes and water balance (Stratospheric Modification).

- o Report targeting opportunities for mitigation research (Engineering).

1989: o Interim Assessment of the response of terrestrial ecosystems to changing climactic conditions, with the first estimates of landscape sensitivity (Stratospheric Modification).

- o Evaluation of air quality changes due to changes in tropospheric chemical reactions sensitive to climate change (Stratospheric Modification).

- o Emissions Chapter for ORD Global Climate Change Research Prospectus (Stratospheric Modification).

Objective 8: Provide Scientific Data and Support to the National Health and Nutrition Examination Survey (NHANES-III)

Health Effects Institute

1991: o Status report on NHANES-III cooperative research (Health).

1990: o Status report on NHANES-III cooperative research and evaluation of field and laboratory test protocol for spirometry (Health).

1989: o Status report on NHANES-III cooperative research (Health).

Air Quality Research

Budget Request

The Agency requests a total of $94,927,500 supported by 440.0 total workyears for 1991 an increase of $17,119,300 and 20.3 total workyears from 1990. Of the request, $30,508,700 will be for the Salaries and Expenses appropriation and $64,418,800 will be for the Research and Development appropriation, increases of $4,337,100 and $12,782,200, respectively.

Program Objectives

This research program provides the research and technical support necessary to enable the Agency to carry out its regulatory and information transfer responsibilities under the Clean Air Act. The following objectives support these efforts:

Objective 1. Provide Scientific Support to Develop and Review Primary and Secondary NAAQS. This research program provides the scientific data needed to issue and revise national ambient air quality standards for emissions of criteria air pollutants.

Objective 2. Provide Scientific Support to Develop NSPS and SIPs. This research supports issuance and revision of New Source Performance Standards and State Implementation Plans through development of models and monitoring techniques for air pollutants and engineering studies of control technologies.

Objective 3. Provide Scientific Support to Develop Regulations for Hazardous Air Pollutants (HAPs). Under this objective EPA conducts research to identify and control emissions of air pollutants from a variety of sources that are hazardous to human health but are not already regulated as criteria air pollutants.

Objective 4. Provide Scientific Support for the Mobile Source Regulatory Program. This research evaluates emissions, exposure patterns, and health effects of mobile source pollutants.

Objective 5. Provide Scientific Data Necessary to Determine Sources, Exposures, Health Effects, and Control Strategies Associated with Indoor Pollutants. Research conducted under this objective supports the Agency's efforts to inform the public about hazards associated with indoor air pollutants and to develop methods to control air emissions from major household sources.

Objective 6. Provide Scientific Data Necessary to Determine the Effects of Stratospheric Ozone Depletion and Develop Control Strategies. This research program is primarily concerned with providing necessary data on the effects of stratospheric ozone depletion and resulting increases in harmful (UV-B) radiation on humans, plants, and ecosystems. Research will also evaluate the environmental consequences of alternative compounds of CFCs and halons, and technologies to replace those currently used for refrigeration, insulation, and fire extinguishment.

Objective 7. Provide Scientific Data Necessary to Determine the Effects of Global Warming and Develop Control Strategies. This objective addresses the research needed to determine the impact of global climate change, to help understand the regional consequences of global climate trends, and to develop and test predictive source and sink models for important trace gases. Research will develop and evaluate technologies and mitigation options for greenhouse gases that produce global warming.

Objective 8. Provide Scientific Support to the National Health and Nutrition Examination Survey (NHANES-III). Activities in support of this objective will provide national baseline data on exposure to pollutants, body burdens, and health effects.

SCIENTIFIC ASSESSMENT

1991 Program Request

The Agency requests a total of $7,083,600 supported by 53.4 total workyears for this program, of which $3,531,100 will be for the Salaries and Expenses appropriation and $3,552,500 will be for the Research and Development appropriation. This represents an increase of $602,100 in the Salaries and Expenses appropriation and an increase of $1,228,300 in the Research and Development appropriation and 4.3 total workyears. The increase in the Salaries and Expenses appropriation reflects a general enhancement of in-house support for assessing risks from air pollutants. The increase in the Research and Development appropriation will support the development of risk assessments required by the Clean Air Act Amendments.

Provide Scientific Support to Develop and Review Primary and Secondary NAAQS. The research program office will review recent health studies and other new scientific data for several air pollutants to support the Agency's statutory mandate to revise National Ambient Air Quality Standards (NAAQS) every five years. This data will be evaluated in Air Quality Criteria Documents (AQCD) which are the primary source of information used by EPA regulatory decisionmakers in establishing or revising NAAQS. This will include an External Review Draft (ERD) of the nitrogen oxides AQCD for Clean Air Science Advisory Committee (CASAC) review. In 1991, the research office will update databases on particulate matter (PM) related research and will continue evaluating data on the health effects of acid aerosols.

Provide Scientific Support to Develop Regulations for Hazardous Air Pollutants. To provide the Office of Air and Radiation (OAR) with the information needed to make regulatory decisions on specific hazardous air pollutants. The research program office will complete final comprehensive Health Assessment Documents (HADs) for three chemicals and will prepare External Review Drafts (ERDS) for two to four chemicals. The research program will implement an External Review Draft (ERD) on the diesel risk assessment. They will also complete Tier 1 screening documents, the initial review of pertinent health effects data on potential HAPs, for one to three chemicals. Other activities will include enhanced support for: assessments of health data for potential HAPs by source category (SCHADS); technical assistance to Regions and States on air toxics issues through the Air Risk Information Support Center (Air RISC); and research on inhalation reference doses (RfDs) for air toxics.

Provide Scientific Data Necessary to Determine Sources, Exposures, Health Effect and Control Strategies Associated with Indoor Pollutants. In support of the Agency's Indoor Air Quality Implementation Plan, the research program office will continue risk assessments for multiple and non-cancer indoor air pollutants and health assessments of biocontaminants found indoors. The Agency will distribute these assessments, which are based on the results of laboratory studies and available literature, to other Federal agencies, State and local governments, and the general public.

1990 Program

In 1990, the Agency is allocating a total of $5,253,200 supported by 49.1 total workyears for this program, of which $2,929,000 is from the Salaries and Expenses appropriation and $2,324,200 is from the Research and Development appropriation.

The research program office will conduct research on NAAQS assessments including the revision of the AQCDs for nitrogen oxides, carbon monoxide, particulate matter (PM_{10}), and 1-hr ozone (O_3), and will continue to develop and evaluate databases on acid aerosols. This includes preparing External Review Drafts for the nitrogen oxides and carbon monoxide AQCDs. This research program will conduct air toxics research including technical assistance to Regions and States through the Air RISC, research on inhalation references doses, and assessments of health data for potential hazardous air pollutants (HAPs) by source category. Finally, the research program office will conduct indoor air health impact and risk assessments. These efforts will include the development of assessment methodology for multiple pollutants and non-cancer endpoints, assessments of biocontaminants, and simulation models.

1989 Accomplishments

In 1989, the Agency obligated a total of $5,252,600 supported by 47.9 total workyears for this program, of which $3,079,600 was from the Salaries and Expenses appropriation and $2,173,000 was from the Research and Development appropriation.

The research program office worked on revising the AQCDs for carbon monoxide and nitrogen oxide and prepared an issue paper on the health effects of acid aerosols. ORD completed a supplement to the AQCD for ozone and other photochemical oxidants. The research program office completed six HADs, two ERDs, and six Tier 1 screening documents for HAPs identified for study by the Office of Air and Radiation (OAR). The completed assessments included those on ammonia, hydrogen fluoride, inorganic phosphorous, hospital waste incineration, and mercuric chloride. The research office also initiated several inhalation RfDs. In collaboration with OAR, the program developed and successfully operated the Air Risk Information Support Center (Air RISC). The Air RISC provides technical information to State and local governments on health risks associated with HAPs. Finally, as part of the Agency's implementation of its indoor air research program, the program greatly expanded the indoor air bibliographic data base and its accessibility to the public.

MONITORING SYSTEMS AND QUALITY ASSURANCE

1991 Program Request

The Agency requests a total of $14,173,700 supported by 101.5 total workyears for this program, of which $6,466,700 will be for the Salaries and Expenses appropriation and $7,707,000 will be for the Research and Development appropriation. This represents an increase of $417,500 in the Salaries and Expenses appropriation, an increase of $1,854,100 in the Research and Development appropriation, and increase of 1.0 total workyears. The increases represent efforts to develop measurement techniques to characterize ambient air levels of acid aerosols, the development of area source methods, the development of indoor air monitoring methodology, and the development and application of remote sensing techniques.

Provide Scientific Support to Develop and Review Primary and Secondary NAAQS. As State and local officials implement the particulate matter NAAQS, improved methods are needed to refine measurements of particulate matter in ambient air. Erroneous measurement techniques may lead to unnecessarily costly control strategies or, conversely, failure to address potential health hazards. In 1991, research will focus on evaluation of cost-effective methodologies for measuring inhalable particulate matter. This effort includes an evaluation of PM_{10} continuous monitors and development of an aerosol classifier for determining particle size distributions. The focus of this research program will be on measuring and monitoring ozone and acid aerosols. Based on the lack of an acceptable, low-cost aerosol measurement method, the Agency will also emphasize developing and improving methods for measuring human exposure to acid aerosols. Other acid aerosol research will include ambient characterization of acid aerosols and broader support of ongoing epidemiological studies. In response to the Clean Air Science Advisory Committee (CASAC) recommendations, the research program will study up to 6 urban areas for spatial distribution of acids, source-receptor relationships, seasonal patterns, local and synoptic meteorological influence, and the relationship of personal exposure to indoor and outdoor concentrations. Also, the research program will evaluate, improve, and standardize other ambient monitoring systems for criteria pollutants. The program office will provide quality assurance, analytical assistance, and data management support to program offices, other EPA laboratories, and international agencies.

Provide Scientific Support to Develop NSPS and SIPs. To ensure the accuracy and precision of data used for NSPS and SIPS regulatory and enforcement decisions, the program will develop source measurement methodologies and quality assurance techniques for a variety of pollutants with an emphasis on fine particles. Specifically, the program will conduct studies on real-dimensional data in real-time intervals obtained using Light Induced Detection and Ranging (LIDAR) techniques in order to help evaluate control strategies such as review effectiveness of State Implementation Plans (SIPs) and to ensure that the Agency keeps abreast with the significant advances in remote sensing and attendant data integration. These techniques are being developed in order to help Regions in non-attainment for such pollutants as ozone and particulate matter. The National Space and Aeronautics Administration (NASA) provides some of the funding for this research. These techniques are faster than fixed site monitoring and will provide a quick way to make three dimensional comparisons of pollutants in an area. Also, the research program will develop source measurements and quality assurance techniques for a variety of pollutants with emphasis on inhalable and fine

particles; provide quality assurance to other Agency components, States, and Regions; and, distribute certified reference materials to users. There will be a summary report on the control strategy applications of the Regional Oxidant Modeling Northeast Transport (ROMNET) program.

Provide Scientific Support to Develop Regulations for Hazardous Air Pollutants. Source emission monitoring is needed to set the National Emissions Standards for Hazardous Air Pollutants mandated by the Clean Air Act (CAA) and to determine compliance with these standards. This research program will focus on the completion of methodologies for existing NESHAPS. To improve the estimates of exposure to potential HAPs, the research program will conduct studies to develop, evaluate, and standardize monitoring systems for ambient air, and sources. The Integrated Air Cancer Project (IACP), a multidisciplinary research program to quantify exposure to airborne pollutants, will emphasize methods development for both indoor and outdoor detection of important HAPs. New air toxics methods will be developed for the implementation of the President's proposed Clean Air Act legislation. The research office will publish an article on source apportionment of mutagenic activity in fine particle organics identified in the Boise, Idaho field study.

Provide Scientific Support to the Mobile Source Regulatory Program. This research program will improve the data base on actual human exposure to mobile source pollutants. The program office will extend the carbon monoxide (CO) human exposure methodology to benzene and other volatile organic pollutants with an emphasis toward quantifying exposures resulting from the use of alternative fuels like methanol. The research office will develop, refine and field-test human activity pattern-exposure models. Also, statistical models which predict human exposures to pollutants while traveling in vehicles will be evaluated. All of these efforts will be coordinated to develop a realistic picture of actual exposure to mobile source pollutants.

Provide Scientific Data Necessary to Determine Sources, Exposures, Health Effects, and Control Strategies Associated with Indoor Pollutants. Based on the human exposure research needs identified by the Total Human Exposure Research Council and to support the Indoor Air Quality Implementation Plan, the focus of indoor air monitoring research will be on developing building diagnostic and measurement methods like study protocols, questionnaires, and instruments to be used for indoor air studies in complaint buildings and residences.

1990 Program

In 1990, the Agency is allocating a total of $11,902,100 supported by 100.5 total workyears for this program, of which $6,049,200 is from the Salaries and Expenses appropriation and $5,852,900 is from the Research and Development appropriation.

This research program will evaluate and improve: ambient and source monitoring systems; measurement methods to include in-depth evaluation of PM_{10} samplers; the development of methods for measuring acid aerosols; and remote monitoring techniques such as the airborne UV-DIAL system for measuring SO_2 and ozone. The Toxic Air Monitoring Stations (TAMS) program will conduct field evaluations for potential widespread application of methodologies for a variety of air toxic pollutants. This research will include a report on the analysis of Eastern U.S. visibility data. The Integrated Air Cancer Project (IACP) is

analyzing the results from the air monitoring field study. The program office is also developing quality assurance procedures and materials for use in Agency monitoring programs and regulatory activities, and will conduct evaluations of the quality of monitoring data collected by Regions, States, and other outside sources. Indoor monitoring research is focused on developing air samplers, for use in quantifying indoor air exposures in important microenvironments, and on developing methodologies which identify sources contributing to "Sick Building" syndrome.

1989 Accomplishments

In 1989, the Agency obligated a total of $12,612,900 supported by 109 total workyears for this program, of which $6,290,600 was from the Salaries and Expenses appropriation and $6,322,300 was from the Research and Development appropriation.

A comprehensive workshop was conducted to identify the available measurement techniques to characterize ambient air levels of acid aerosols. Based on the results of the workshop, selected methods will be tested and evaluated under standard conditions in order to make improvements in the measurement techniques and to allow a comparison of acid aerosol data being obtained in several on-going epidemiological studies and future acid aerosol characterization studies. Also, several commercially available methods have been evaluated and approved as equivalent methods for measuring ambient levels of PM_{10}. A report was completed on population exposures to mobile source pollutants for 1988.

HEALTH EFFECTS

1991 Program Request

The Agency requests a total of $21,817,500 supported by 113.0 total workyears for this program, of which $7,193,000 will be for the Salaries and Expenses appropriation and $14,624,500 will be for the Research and Development appropriation. This represents a increase of $648,900 in the Salaries and Expenses appropriation and a decrease of $1,850,800 in the Research and Development appropriation and a 1.0 decrease in total workyears. The decrease in Research and Development appropriation reflects a smaller investment than the prior year in equipment for the Chapel Hill, NC, inhalation facility. Also, the NHANES III resources were transferred to the multi-media budget subactivity.

Provide Scientific Support to Develop and Review Primary and Secondary NAAQS. The NAAQS program will focus on ozone and acid aerosols. With confirmation of the existence of ozone health effects, this research will study acute, subchronic, and chronic exposure to criteria pollutants in response to the statutory mandate for periodic review of NAAQS and the research needs identified by the CASAC of the Agency's SAB. Research will emphasize species sensitivity issues and inflammatory and pulmonary function responses in man. This will include an assessment of the pulmonary health effects of inhaled acid aerosols in animals. Studies of exposure to criteria pollutants will shift from acute to chronic effects and will emphasize the respiratory and immunological effects of O_3, NO_2, and sulfuric acid. The research program will also develop theoretical models of respiratory tract deposition. Clinical studies will clarify the risks to potentially susceptible subpopulations. This research will include chronic animal toxicology studies to determine the relationship between long-term exposure to

urban patterns of ozone and the onset or exacerbation of chronic lung disease. Epidemiology studies will emphasize chronic cardiopulmonary effects of ambient and indoor combinations of pollutants.

Provide Scientific Support to Develop Regulations for Hazardous Air Pollutants. To support development of regulations for toxic air pollutants, the Integrated Air Cancer Project (IACP) will emphasize pharmacokinetics studies to clarify the relationship between exposure and dose. The research office will develop a physiologically-based pharmacokinetics model for predicting dosimetry of volatile organic compounds in humans. Also, the program office will conduct studies which will assess the mutagenic and carcinogenic effects of vapor phase mixtures, as well as, the non-cancer effects of urban mixtures (both source emissions and ambient concentrations), and dose-response relationships for individual compounds and complex mixtures. Dosimetry studies will focus on pulmonary deposition and dose to genetic materials. Bioassays will be developed and validated for use in biomonitoring networks.

Provide Scientific Support to the Mobile Source Regulatory Program. This research program provides data for Agency policymakers on the risks to public health and welfare from exposure to automotive emissions and the atmospheric transformation products of these emissions. The program office will conduct additional research to determine the contribution of motor vehicle emissions to the mutagenicity of ambient air and to assess DNA adducts as biomarkers of risk from mobile source emissions. This research program will also study the effect of alternative fuels on the mutagenic activity of automotive emissions including analyses of alternative fuel use required under the Alternative Motor Fuels Act of 1988 which will be used for a new biannual Report to Congress. Finally the program office will study health effects of motor vehicle fuels, additives, and alternative fuels (such as methanol).

Provide Scientific Data Necessary to Determine Sources, Exposures, Health Effects and Control Strategies Associated with Indoor Air Pollutants. Indoor air research will emphasize the health effects of combustion products, "sick building syndrome," volatile organic compound mixtures, and environmental tobacco smoke (ETS). The research office is proposing to complete a report on the effects from inhalation of chemical mixtures found in indoor environments. Biomarker research will examine ways that can be used to estimate exposures to ETS. Results of these studies will be used to develop health risk assessments. Other new research will include research on non-cancer health effects, the genotoxicity of emissions from various indoor combustion appliances, and associated mitigation strategies. The program office will expand to other areas—including exposure and dosimetry of environmental tobacco smoke, including continued research on other exposure biomarkers.

Health Effects Institute. The principal goal of the Health Effects Institute (HEI) is to gather information and conduct research on the health effects of motor vehicle emissions. Research will focus on human dose-response characterization, and the quantification of human risk from mobile source pollutants, including alternative fuels.

1990 Program

In 1990, the Agency is allocating a total of $23,019,400 supported by 114.0 total workyears for this program, of which $6,544,100 is from the Salaries and

Expenses appropriation and $16,475,300 is from the Research and Development appropriation.

This research program will study acute, sub-chronic, and chronic exposures to ozone, sulfur dioxide and nitrogen dioxide and other NAAQS pollutants to determine effects on various systems (including respiratory, metabolic, and immune systems). This program office will also expand research on acid aerosols to include studies on host defense mechanisms and will include a report on the response of the human respiratory tract to acute exposure to acid aerosols. Animal toxicology and human epidemiology studies on NO_2, O_3, SO_2, and sulfuric acid will emphasize research on the relationship between exposure, dose, and effects (including respiratory disease). The Interdivisional Air Toxics Program is concerned with the genotoxic effects associated with exposure to complex mixtures and will also study the impact of alternative fuels and their emissions on human health. An assessment will be conducted on the contribution of mobile source emissions to the genotoxicity of ambient urban aerosol mixtures. Indoor air research focuses on the identification and evaluation of biomarkers for the particulate and vapor phases of environmental tobacco smoke (ETS) and on chamber studies evaluating indoor VOCs as it relates to "sick building syndrome." There will be an assessment of the contribution of wood burning and automobile emissions to the mutagenicity and carcinogenicity of airborne pollutants. There will also be a report assessing the potential carcinogenicity of combustion emissions from unvented indoor kerosene heaters. Support is also provided for the Health Effects Institute (HEI) which is studying the various aspects of criteria pollutant toxicity and the health effects associated with mobile source pollutants (including diesel exhaust, aldehydes, and alternative fuels).

1989 Accomplishments

In 1989, the Agency obligated a total of $20,846,900 supported by 111.7 total workyears for this program, of which $7,422,400 was from the Salaries and Expenses appropriation and $13,424,500 was from the Research and Development appropriation.

Twenty reports/articles were issued in the following research areas: scientific support for development and review of primary and secondary NAAQS (one report is on prolonged exposure to ozone at or below current one-hour NAAQS); support for development of regulations for hazardous air pollutants; support for the mobile source regulatory program (one report is on the effects of atmospheric transformation on the mutagenicity of gaseous gasoline emissions); and support for evaluation of effects associated with indoor air pollutants. There was an assessment of the comparative mutagenicity and carcinogenicity of combustion source emissions.

ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

1991 Program Request

The Agency requests a total of $9,982,500 supported by 58.4 total workyears for this program, of which $4,180,300 will be for the Salaries and Expenses appropriation and $5,802,200 will be for the Research and Development appropriation. This represents an increase of $510,800 in the Salaries and Expenses appropriation and an increase of $882,600 in the Research and Development

appropriation, and an increase of 2.0 total workyears. The increase in Salaries and Expenses appropriation reflects a general enhancement of in-house support; the increase in Research and Development reflects new work in alternative fuels, emissions inventory, and indoor air.

Provide Support to Develop NSPS and SIPs. Research to support development, review, and enforcement of State Implementation Plans and promulgation of New Source Performance Standards (NSPS) includes: (1) field demonstration of the LIMB/ADVACATE process for SOx and NOx, and (2) the completion of the field demonstration of reburning as a means of NOx control on cyclone burners. This research program will conduct an evaluation of selective catalyst reduction (SCR) for NOx reduction. There will be a Joint Symposium on stationary combustion NOx control in 1991. Also, the program office will conduct studies of PM_{10} control from wood stove emissions and ozone non-attainment by controlling area VOC emissions at a reduced rate. There will be an assessment report on the role of consumer/commercial solvents in ozone non-attainment, including emissions reductions approaches for the highest volume sources. New research in this area will include the development of emissions inventory methods for criteria pollutants which will support acid deposition, ozone non-attainment, and PM_{10} implementation programs. The research office will emphasize improved area source emission estimation techniques for data handling and processing procedures and VOC emission factors.

Provide Scientific Support to Develop Regulations for Hazardous Air Pollutants. The Clean Air Act directs EPA to provide information on control techniques for hazardous air pollutants. To implement this requirement, the research program supports the operation of the Air Toxics Control Technology Center. The VOC control program will develop guidelines for measuring the compliance effectiveness of air toxic regulations and an engineering quality assurance program for permitting. SARA, Title III support activities will focus on the evaluation of process hazards. An enhanced emissions inventory program for air toxics will compile available data on a national basis, develop estimation methodologies and validation techniques, and improve air toxic emission and speciation factors. This will include a report on the development of improved emission factors for methane for selected anthropogenic sources. Also, a Pollution Prevention Project will begin that will identify, develop, and demonstrate prevention techniques which reduce emissions of volatile organic compounds (VOC's) emitted from area sources such as consumer products and industrial solvents. This will be a joint EPA, Regional, State, and industry effort. The research office is preparing a report on the development of a secondary combustion woodstove for reducing particulate emissions to or below the 1990 NSPS. The research program will also include a report targeting opportunities for mitigation research.

Provide Scientific Support to the Mobile Source Regulatory Program. This research program will study the impact from alternative fuel use as required under the Alternative Motor Fuels Act of 1988 for an biennial Report to Congress. Emissions from the production, distribution, and marketing of alternative fuels (such as methanol, ethanol, compressed and liquified natural gas, and/or reformulated gasoline/diesel) will be characterized.

Provide Scientific Data Necessary to Determine Sources, Exposures, Health Effects and Control Strategies Associated with Indoor Pollutants. In pursuance of the Indoor Air Quality Implementation Plan, the research program will complete

methods for testing the performance of air cleaners. Commercially available units will be tested for their effectiveness in removing particles and vapors within indoor environments. The performance testing results will be used by OAR in public information documents. The research office is proposing to complete two reports on (1) biocontaminant control by humidity control systems, air cleaners, and biocides, and (2) on indoor pollutant "sinks." This research program will also test indoor materials using an expanded list of products, to increase our knowledge of which products are low-emitting, and desirable for use in buildings to prevent indoor air quality complaints and exposures to potentially hazardous chemicals. The program office will expand research into the methods and procedures for investigating indoor air quality (IAQ) problems in buildings.

1990 Program

In 1990 the Agency is allocating a total of $8,589,100 supported by 56.4 total workyears for this program, of which $3,669,500 is from the Salaries and Expenses appropriation and $4,919,600 is from the Research and Development appropriation.

In support of NAAQS compliance, this research program will study control technologies for SO_2 and NOx including the refinement of the process of making the sorbent for the ADVOCATE process for SOx and NOx reduction and the evaluation of selective catalyst reduction (SCR). The PM_{10} technical barriers program focuses on the control of particles and condensible organics from woodstoves. The research office will complete reports on kerosene heater emissions, retrofit technology for existing woodstoves, the Boise, Idaho field study of woodstove emissions, as well as, low emission material and products. The ozone non-attainment research is concerned with technical barriers and options for controlling area VOC emissions. The research program will expand the Air Toxic Control Technology Center. The research program will develop jointly with OAR a VOC control strategy to deal with ozone non-attainment. Reports on area volatile organic compound (VOC) sources and control options to support the Agency's post-1987 ozone non-attainment strategy, and application of conventional particulate control technology in major areas of concern will be completed. The research program office continues to provide technical support to EPA program offices, Regions, States, and localities on prevention of accidental releases and short-term toxics emissions. Indoor air research focuses on the evaluation of air cleaners, chamber studies of organic emissions from indoor sources, and the modelling and source characterization of indoor pollutants.

1989 Accomplishments

In 1989, the Agency obligated a total of $6,411,700 supported by 56.9 total workyears for this program, of which $3,376,500 was from the Salaries and Expenses appropriation and $3,035,200 was from the Research and Development appropriation.

In the indoor air research program, personal computer models for evaluating indoor air quality control options were developed. Reports were produced on procedures for measuring emissions from indoor material and products and on the effectiveness of air cleaners for IAQ control. SO_2 and NOx control technologies were researched. A report on the development of an advanced process which utilizes calcium silicate sorbents (ADVACATE) to control acid gases from combustion sources was completed. Technical support for NSPS compliance and new source control evaluation were provided to Regions and States. Control

assessments and technology development were done for key air toxics sources.

ENVIRONMENTAL PROCESSES AND EFFECTS

1991 Program Request

The Agency requests a total of $2,886,300 supported by 13.8 total workyears for this program, of which $1,253,000 will be for the Salaries and Expenses appropriations and $1,633,300 will be for the Research and Development appropriation. This represents an increase of $327,100 in the Salaries and Expenses appropriation and an increase of $386,500 in the Research and Development appropriation and no change in total workyears. The increase in the Salaries and Expenses appropriation reflects a general enhancement of in-house support for determining the effects of air pollutants on the environment; and the increase in the Research and Development appropriation for research into alternative fuels.

Provide Scientific Support to Develop and Review Primary and Secondary NAAQS. Data from EPA's acid deposition research efforts and other air pollution research efforts indicate that tropospheric ozone may have significant adverse impacts on forests. Therefore, the impact of ozone damage on economically and ecologically significant forest species will be assessed to determine if the damage occurring supports a new ozone standard. Research on tree responses will begin to assess the risk from ozone on major commercially valuable forest tree species in areas that are most at risk. EPA's research program will be closely coordinated with the Departments of Agriculture, Interior, and Energy, as well as private industry research organizations such as the Electrical Power Research Institute.

1990 Program

In 1990, the Agency is allocating a total of $2,172,700 supported by 13.8 total workyears for this program, of which $925,900 is from the Salaries and Expenses appropriation and $1,246,800 is from the Research and Development appropriation.

The research program will conduct research to determine the effects of ozone of forests especially in sensitive tree species with emphasis on species of economic importance. Selected forest species are being exposed to ozone levels which are likely to occur in forest regions of the U.S.

1989 Accomplishments

In 1989, the Agency obligated a total of $2,022,800 supported by 14.3 total workyears for this program, of which $745,700 was from the Salaries and Expenses appropriation and $1,277,100 was from the Research and Development appropriation.

A research plan was completed and peer-reviewed. Exposure studies on target tree species were initiated. A publication of a comprehensive research plan to determine the effects of tropospheric ozone on U.S. forests was completed.

CHARACTERIZATION, TRANSPORT, AND FATE

1991 Program Request

The Agency requests a total of $12,983,900 supported by 57.0 total workyears for this program, of which $3,962,100 will be for the Salaries and Expenses appropriation and $9,021,800 will be for the Research and Development appropriation. This represents an increase of $426,800 in the Salaries and Expenses appropriation, and an increase of $1,091,400 in the Research and Development appropriation and 2.0 total workyears. The increase in the Salaries and Expenses appropriation reflects a general enhancement of in-house support for development of models to predict the existence and movement of air pollutants. The increases in Research and Development appropriations reflects an increase in atmospheric transport and fate research on ozone non-attainment and alternative fuels. These increases also represent a transfer of the China studies research to the multimedia subactivity and a small transfer of NOAA salaries to the Office of Air and Radiation (OAR).

Provide Scientific Support to Develop and Review Primary and Secondary NAAQS. This research program will focus on the atmospheric formation and fate of acid aerosols. Research will begin on a new integrated program to study acid aerosol formation and neutralization to enable the Agency to understand how to control or curtail formation of acid aerosol pollutants in the atmosphere. This research program will apply existing models and emissions inventories to acid aerosols and related pollutants, such as ammonia, and also to use with estimating regional exposures. Finally the program office will modify simple photochemical models to include important pollutant parameters that contribute to visibility reduction.

Provide Scientific Support to Develop NSPS and SIPs. To comply with the Clean Air Act, the States and EPA must have air quality models to develop and review SIPS for urban ozone. To assist in that regard, the program office will provide an evaluated chemical mechanism that predicts ozone formations for use by State governments in preparing ozone SIPS. Research will examine the role of biogenic VOCs and other factors in affecting ozone non-attainment and proposed control strategies. The Regional Oxidant Model (ROM) will be used to determine the impact of various VOCs, including biogenics and NOx emissions on ozone control strategies for the Northeastern States and will expand to be able to predict long-term (seasonal) type Regional ozone air quality estimates.

The research program will use data from the 1988 Acid Deposition field study to evaluate the Regional Particulate Model. The Regional Particulate Model will be used to assess the Regional or transmitted component of particulate matter that impacts local urban atmospheres. Also, source apportionment techniques will be developed that will be used to assess the individual contribution of sources to an air quality problem.

Provide Scientific Support to Develop Regulations for Hazardous Air Pollutants. In order to increase the Agency's understanding of how HAPs are formed and to estimate their expected lifetime in the atmosphere, laboratory and field studies will be conducted to determine the atmospheric reaction rates and transformation products of HAPs under Agency review. HAP chemistry will be studied under conditions that simulate atmospheric conditions. Studies will be conducted to identify potential HAPs produced in air from innocuous pollutants

emitted from a variety of sources. Field measurements will quantify the ambient concentration variabilities of HAPs in the urban atmosphere and describe the associated atmospheric processes and implication for exposure. Smog chamber studies will measure the reaction of air toxics and the formation of other hazardous products from atmospheric transformation of HAPs and high-volume manufactured organics. These studies will describe the formations, removal, and fate of air toxics in complex atmospheric mixtures. As part of ORD's Integrated Air Cancer Project, studies will be conducted to examine the formation, stability, and transformation of volatile and aerosol bound organics and potentially carcinogenic materials in the atmosphere. The atmospheric transformation will be conducted by using bioassay-coupled smog chamber irradiation experiments that simulate atmospheric conditions.

Provide Scientific Support to the Mobile Source Regulatory Program. To assess potential risk to public health and welfare, and to support regulatory development, this research program will evaluate the impact of mobile source control technologies on evaporative and exhaust emissions with emphasis on alternative fuels. Characterization will include both regulated and selected unregulated emissions and will also determine the significance of "running-loss" evaporative emissions of the tailpipe and evaporative hydrocarbons at elevated ambient temperatures. A Pollution Prevention Project will be conducted on the potential use of alternative fuels (such as methanol) to reduce pollutant loading to the atmosphere. This joint ORD/OPPE study will include characterization of the emissions of vehicles powered by alternative fuels and air quality assessment studies. New studies will include analyses required under the Alternative Motor Fuels Act of 1988 including development of new analytical methods for measuring the emissions from vehicles using alternative fuels, characterize combustion and evaporative emissions products, and atmospheric transformation products and new sensitive, selective procedures for monitoring human and ecosystem exposure to the compounds of interest.

1990 Program

In 1990, the Agency is allocating a total of $11,465,700 supported by 55.0 total workyears for this program, of which $3,535,300 is from the Salaries and Expenses appropriation and $7,930,400 is from the Research and Development appropriation.

This research program supports the development and evaluation of secondary air quality standards for PM_{10}. Ozone non-attainment research will include chemical models to reduce errors or uncertainties in predicting ozone formation associated with precursor emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NOx). This research program will evaluate the Regional Oxidant Model (ROM) against field data to determine the impacts of simulated VOC and NOx emission controls on ozone air quality. Other ozone research includes a program to monitor VOCs and NOx to help determine reasons for ozone non-attainment. An improved source apportionment model will be developed for Regional scale aerosols. A report on aerosol sources for the Eastern United States will be completed. Special studies will be conducted to examine the potential role of biogenic VOCs and other factors ozone non-attainment areas. The research program will conduct studies of HAP levels in urban atmospheres and characterization of mobile source emissions from vehicles equipped with new emission control devices using conventional gasoline fuels or alternative fuels (such as methanol-blended fuels). An article will be published characterizing tailpipe, evaporative, and refueling

emissions from gasoline fueled automobiles.

1989 Accomplishments

In 1989, the Agency obligated a total of $11,003,000 supported by 54.7 total workyears for this program, of which $3,733,100 was from the Salaries and Expenses appropriation and $7,269,900 was from the Research and Development appropriation.

In 1989, an improved version of the Regional Oxidant Model (ROM) was used to demonstrate the impact of regional VOCs and NOx control strategies with respect to their impact on Regional ozone air quality. Also, studies were initiated in the Atlanta area to assess the role of biogenic VOC emissions and other factors in the ozone non-attainment problem areas. A study was completed on the characterization of emissions from a flexible-fuel vehicle using both gasoline and gasoline/methanol blends. An article was published that evaluated emissions from diesels equipped with advanced emission control technology. Reports were completed on the recommended modifications to the Complex Terrain Dispersion Model, and on the identities of HAPs produced in the atmosphere from ubiquitous innocuous pollutants.

STRATOSPHERIC MODIFICATION

1991 Program Request

The Agency requests a total of $26,000,000 supported by 42.9 total workyears for this program, of which $3,922,500 will be for the Salaries and Expenses appropriation and $22,077,500 will be for the Research and Development appropriation. This represents increases of $1,403,900 and $9,190,100 respectively, and an increase of 12.0 total workyears. The increase in both appropriations represents a substantial increase in the global warming research program in order to provide policymakers with reliable projections on the potential for global warming and its environmental consequences. The increase is also due to continued work addressing the scientific uncertainties associated with ozone depletion. This work includes a multidisciplinary research program to determine the impacts of increased UV-B radiation on terrestrial and aquatic ecosystems and on human health, and to investigate mitigative solutions.

Provide Scientific Data Necessary to Determine the Effects of Stratospheric Ozone Depletion and Develop Control Technologies. Through the Montreal Protocol, the international community has formally identified depletion of the stratospheric ozone layer as one of the most important problems facing the world today. To address the scientific uncertainties associated with ozone depletion, the Agency will conduct a multidisciplinary research program in terrestrial and aquatic ecosystems, human health, and emissions and mitigative solutions. Studies of the effects of UV-B radiation on terrestrial ecosystems will evaluate the relationship between UV-B levels (dose) and other widespread anthropogenic factors such as global climate change. This will include reports on the effects of UV-B radiation on human immunosuppression, and wetland rice ecosystems. This will also include research on UV-B effects on the marine food web and biogeochemical cycling and on the evaluation of alternate compounds to CFCs and halons, and technologies to replace those used for such purposes as refrigeration, insulation, and fire extinguishment. This will include a report on alternatives to halons as fire extinguishants and a status report on alternatives for insulation which do not

use CFC's. Important issues under investigation include impacts on wetland rice ecosystems, monitoring surface fluxes of UV-B radiation, effects on marine fisheries, and assessment of current scientific understanding. The research program will concentrate on developing ways to reduce emissions of chemicals that contribute to stratospheric ozone depletion, including CFCs, halons, and N2O, and to transfer technology within the U.S. and to developing nations. Finally, the research program will establish a data base for N_2O emissions from a variety of stationary combustion sources including the potential for plume formation.

Provide Scientific Data Necessary to Determine the Effects of Global Warming and Develop Control Strategies. The potential impact of global climate change could pose the largest and most significant long-term man-made environmental problem of the future. To provide policymakers with reliable projections on the potential for global warming and its environmental consequences, the current research program will be expanded substantially. The EPA has developed a research program in conjunction with the government-wide research effort coordinated by the Committee on Earth Sciences (CES) of the White House Federal Coordinating Council for Science, Engineering, and Technology. The 1991 program will focus on the role of the terrestrial biosphere in atmospheric trace gas concentrations and surface energy balance, and what benefits can be attained from mitigation technologies and practices. This will include a report on practical and beneficial techniques for mitigation of trace gases emissions and processes that control emissions of radiatively important trace gases from the biosphere. The proposed research, which has been coordinated with other Federal agencies such as NASA, NOAA, and the DOE, will emphasize estimating potential changes in such major resources as forested ecosystems and agro-ecosystems. This will include a report on the sensitivity of forest regions, worldwide, to global change. The program office will expand work to include organic trace gas emissions from plant canopies, as well as to develop models for carbon fluxes from terrestrial ecosystems. This research will model anthropogenic influences on ozone concentrations in the free troposphere and will develop regional climatic scenarios. The program office will also conduct statistical analyses of climatic variability and regional consequences of variation, and quantification of feedback effects from biological processes (such as evapotranspiration) and physical conditions (such as albedo changes). Research will include analyses of the effects of climate change on forest growth and reproduction; changes in carbon sequestration; semi-arid and agroecosystem responses; climate-biosphere interaction effects; marine and near-coastal ecological responses; and freshwater biological effects. Finally, the program office will conduct research to determine the ambient measurements and factors required to understand emissions from biomass burning.

1990 Program

In 1990, the Agency is allocating a total of $15,406,000 supported by 30.9 total workyears for this program, of which $2,518,600 is from the Salaries and Expenses appropriation and $12,887,400 is from the Research and Development appropriation.

In response to increasing national and international concern over depletion of the stratospheric ozone layer and the potential for significant global temperature increases over the next several decades, the Agency is expanding research on the ecological and human health effects associated with these atmospheric changes. This research is providing Agency policymakers with the

data needed to direct and develop an integrated national strategy to address these global environmental problems. The stratospheric ozone depletion research program is compiling and analyzing data from in-house, national, and international sources to produce a scientific assessment on the adverse effects of stratospheric ozone depletion. Specifically, the research program office, in order to address the scientific uncertainties associated with ozone depletion, will conduct a multidisciplinary research program that will determine the impacts of increased UV-B radiation on terrestrial, aquatic ecosystems, and on human health and will investigate mitigative solutions. Terrestrial effects studies will emphasize the impact of UV-B levels (dose) and other widespread anthropogenic factors such as global climate change and tropospheric ozone on agricultural and forested ecosystems. Aquatic effects research will focus on determining UV-B effects on the marine food chain and fisheries production. This will include development of a predictive UV-B dose response model for commercially important fish. The program office will complete two reports: the effects of UV-B radiation on rice yield, and the status of alternative refrigerants for home refrigerators. Research results will be distributed within the U.S. and to other developing nations. Increasing national and international concern over the potential for drastic global climate change resulting from pollutants in the troposphere and stratosphere, and EPA's new responsibilities resulting from the Global Climate Protection Act of 1987, required an expansion of EPA's global climate research program in 1990. The 1990 program will focus on the impact of climate change on key ecosystems (such as boreal forests). The proposed research, which has been coordinated with other Federal agencies such as NASA, NOAA, and the DOE, will emphasize estimating potential changes in such major resources as forested ecosystems. The research program will evaluate feedbacks from ecosystem and land-use changes, including changes in tropical forests, to changes in climate. Also, emissions research will develop data for source/sink relationships for a variety of radiatively important trace gases, and evaluate potential emission management techniques. Two reports will be completed on: the estimation of relative importance of major forest types as sources and sinks for radiatively important trace gases, and soil microbial processes relating radiatively important trace gas fluxes and water balance. Atmospheric modeling will expand to include estimates of global consequences of tropospheric air-quality changes. Possible climatic conditions resulting from global warming will be developed for a wide variety of Regional situations. Finally, research will be initiated on the effects of global warming on tropical vegetation, the possible consequences of reforestation strategies on total carbon and nitrogen levels, and some effects of warming on high-latitude (taiga/tundra) ecosystems.

1989 Accomplishments

In 1989, the Agency obligated a total of $9,588,000 supported by 13.2 total workyears for this program, of which $895,900 was from the Salaries and Expenses appropriation and $8,692,100 was from the Research and Development appropriation.

EPA scientists organized and participated in an international workshop on Global Climate Change and Rice at the International Rice Research Institute (IRRI) to begin to plan the cooperative research to be carried out by EPA and IRRI; sponsored a scientific "trilateral" (Federal Republic of Germany, The Netherlands, and the United States) workshop on the effects of UV-B radiation; participated in a NOAA scientific cruise to the Southeast Pacific including the Antarctic to investigate the effects of enhanced UV-B radiation on photosynthesis and the production of radiatively important trace gases by open ocean phytoplankton; and

chaired a session on environmental effects of climate change at the Society for Environmental Toxicology in Toronto. The research office completed a report on the resource significance and sensibility on the most important fisheries likely to be affected by UV-B radiation. The research office developed a strategy that prioritized research projects that will examine the possible health effects resulting from increased exposure to ultraviolet radiation (UV-B) as a result of stratospheric ozone depletion. Experiments addressing the long-term effects of ambient and enhanced UV-B radiation on a single phytoplankton species demonstrated that, compared to the "no-UV" treatment, ambient levels of UV-B radiation decreased growth and photosynthesis of the species investigated. The research office used statistical models in an initial effort to estimate the potential effect of a 16% decline in stratospheric ozone on global fisheries production.

The program office conducted a review of alternative refrigerants to the CFCs which, along with computer modeling, has lead to the preliminary conclusion that a certain class of mixtures called non-azeotropic refrigerant mixtures has the potential for use in home refrigeration. Also, the program office initiated a program to determine the level of CFC contamination which could be allowed in recycled refrigerant with the cooperation of the Mobile Air-Conditioning Society, Motor Vehicle Manufactures Association, and the Society of Automotive Engineers. This new program has resulted in several large organizations agreeing to implement the use of recycling machines in their operations. Finally, the research office conducted a review of the present use of CFCs as propellants in aerosols and found many uses which could immediately utilize alternative formulations, as well as discovering that propellant replacements were not immediately available but might be available from the newer substitutes that are under development. The research office will use conclusions from this work to aid other nations in replacing their CFC aerosol propellant uses with alternatives as well as further decreasing the U.S. usage of CFCs as aerosol propellants.

EPA scientists conducted research and prepared a report on the sensitivity of ecological landscapes to climate change. The report identified regions in the Pacific northwest and the southeastern U.S. as being particularly sensitive to climate change. A major report was prepared on methods used to develop climate scenarios. In addition, scientists within the program made a major contribution to the Report to Congress on the Potential Effects of Global Climate Change on the United States. This contribution included support in developing the climate scenarios used to describe the potential effects, as well as interpreting the results. An Appendix was prepared by program scientists on the potential impacts of climate change on tropospheric chemistry.

The program office organized and chaired a session on the environmental effects of climate change at the annual meeting on the Society for Environmental Toxicology and Chemistry (SETAC). As a result of this session, the society will emphasize global climate change research at the 1990 annual meeting. Finally, over 40 papers were published, including 21 in peer reviewed literature of which one report evaluates air quality changes due to changes in tropospheric chemical reactions sensitive to climate change.

Abatement and Control

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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AIR

Air Quality & Stationary Source Planning & Standards

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
PROGRAM						
Emission Standards & Technology Assessment						
Salaries & Expenses		$5,489.7	$5,440.1	$5,371.4	$8,194.1	$2,822.7
Abatement Control and Compliance		$5,894.3	$8,231.1	$8,126.1	$14,128.7	$6,002.6
	TOTAL	$11,384.0	$13,671.2	$13,497.5	$22,322.8	$8,825.3
National Pollutant Policies, Strategies, and Rules						
Salaries & Expenses		$1,879.9	$2,267.6	$2,524.0	$2,947.5	$423.5
Abatement Control and Compliance		$9,349.4	$9,202.1	$9,074.9	$9,106.3	$31.4
	TOTAL	$11,229.3	$11,469.7	$11,598.9	$12,053.8	$454.9
State Program Policy Guidelines & Air Standards Development						
Salaries & Expenses		$5,595.9	$5,762.8	$5,411.7	$9,137.3	$3,725.6
Abatement Control and Compliance		$2,851.7	$4,528.6	$4,470.9	$7,971.8	$3,500.9
	TOTAL	$8,447.6	$10,291.4	$9,882.6	$17,109.1	$7,226.5
TOTAL:						
Salaries & Expenses		$12,965.5	$13,470.5	$13,307.1	$20,278.9	$6,971.8
Abatement Control and Compliance		$18,095.4	$21,961.8	$21,671.9	$31,206.8	$9,534.9
Air Quality & Stationary Source Planning & Standards	TOTAL	$31,060.9	$35,432.3	$34,979.0	$51,485.7	$16,506.7
PERMANENT WORKYEARS						
Emission Standards & Technology Assessment		90.4	94.7	93.1	125.1	32.0
National Pollutant Policies, Strategies, and Rules		29.5	39.3	41.3	45.0	3.7
State Program Policy Guidelines & Air Standards Development		95.9	100.3	97.5	139.5	42.0
TOTAL PERMANENT WORKYEARS		215.8	234.3	231.9	309.6	77.7

AIR

Air Quality & Stationary Source Planning & Standards

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
TOTAL WORKYEARS					
Emission Standards & Technology Assessment	93.6	94.7	93.1	125.1	32.0
National Pollutant Policies, Strategies, and Rules	30.3	39.3	41.3	45.0	3.7
State Program Policy Guidelines & Air Standards Development	98.0	100.3	97.5	139.5	42.0
TOTAL WORKYEARS	221.9	234.3	231.9	309.6	77.7

Air Quality and Stationary Source Planning and Standards

Budget Request

The Agency requests a total of $51,485,700 supported by 309.6 total workyears for 1991, an increase of $16,506,700 and 77.7 in total workyears from 1990. Of the request, $20,278,900 will be for the Salaries and Expenses appropriation and $31,206,800 will be for the Abatement, Control and Compliance appropriation. This represents an increase in the Salaries and Expenses appropriation of $6,971,800 and an increase in the Abatement, Control and Compliance appropriation of $9,534,900.

EMISSION STANDARDS AND TECHNOLOGY ASSESSMENT

1991 Program Request

The Agency requests a total of $22,322,800 supported by 125.1 total workyears for this program, of which $8,194,100 will be for the Salaries and Expenses appropriation and $14,128,700 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $2,822,700 for the Salaries and Expenses appropriation, an increase of $6,002,600 in the Abatement, Control and Compliance appropriation, and an increase of 32.0 in total workyears from 1990. The increases will support new activities needed to implement the President's Clean Air proposal addressing air toxics and nonattainment of National Ambient Air Quality Standards (NAAQSs).

A major program emphasis in 1991 will continue to be air toxics, including development of standards under National Emission Standards for Hazardous Air Pollutants (NESHAPs) and other authorities and regulatory decisions for high priority pollutants and source categories. Program activities focus primarily on reducing the more than 1300-1600 cancer deaths per year and high individual risks that are estimated to result from toxic air pollutants. As a result of anticipated legislative changes, EPA will concentrate on developing a list of the major source categories of emissions of 191 pollutants; initiating work on developing maximum achievable control technology (MACT) for these source categories; responding to petitions to add or delete pollutants on the list; and developing guidelines for making alternative compliance determinations. During 1991 the Agency will focus on ten source categories in order to meet the two-year requirements of the anticipated new legislation. The Agency also will direct its efforts toward source categories associated with four-year requirements.

In 1991 EPA will continue developing new source performance standards (NSPSs) for two new source categories and control techniques guidelines (CTGs) for seven new source categories of volatile organic compound (VOC) emissions. Pursuant to requirements of the President's Clean Air proposal, the Agency will initiate an assessment of the need for and begin development of other federal measures for VOC control. In addition, the Agency will begin development of an

alternative control techniques (ACTs) document for sources of nitrogen oxides (NO_x); reasonably available control measures (RACMs) for PM-10 sources (urban fugitive dust and residential wood combustion); and a study of the hazards to public health as a result of the emissions of listed pollutants from electric utilities.

The Agency will continue technology transfer to state and local agencies on ozone, PM-10 and air toxics controls through the National Air Toxics Information Clearinghouse (NATICH), the Control Technology Center (CTC), the Air Risk Information Support Center (AirRISC), and the Best Available Control Technology/Lowest Achievable Emission Rate (BACT/LAER) Clearinghouse.

1990 Program

In 1990 the Agency is allocating a total of $13,497,500 supported by 93.1 total workyears to this program, of which $5,371,400 is from the Salaries and Expenses appropriation and $8,126,100 is from the Abatement, Control and Compliance appropriation.

In 1990 EPA is continuing NSPS development. By the end of 1990, the Agency will have promulgated 46 NSPSs from the priority list, representing about 87 percent fulfillment of the 1977 Congressional mandate. The Agency is continuing work on NSPSs for two source categories, municipal waste combustion and landfills, that have not been added to the priority list. In addition, the Agency is devoting a major effort to development of standards of performance for hospital waste incinerators. The Agency is deferring development of the final six NSPSs on the priority list in order to complete higher priority work.

The current program is oriented toward regulation of source categories that emit ten hazardous air pollutants; development of NESHAPs for coke oven emissions; and refining a ranking approach for developing NESHAPs. This approach sets priorities and assesses source categories for NESHAPs based on multi-pollutant impacts on human health. With the completion of EPA's policy for setting NESHAPs, the Agency will initiate major efforts towards developing NESHAPs using this approach. Outputs in 1990 include promulgation of NESHAPs for the remaining source categories of benzene emissions and revisions to the reporting requirements for the asbestos NESHAPs.

To support efforts in the area of ozone nonattainment, EPA has begun developing CTGs for seven source categories of VOC emissions and an ACT document for one additional source category of NOx emissions.

Consistent with the National Air Toxics Strategy, the Agency is providing implementation support to state air toxics programs through the operation of four centers and clearinghouses and the publication of implementation support and technology transfer documents for air toxics, ozone, and PM-10 control.

1989 Accomplishments

In 1989 the Agency obligated a total of $11,384,000 supported by 93.6 total workyears, of which $5,489,700 was from the Salaries and Expenses appropriation and $5,894,300 was from the Abatement, Control and Compliance appropriation.

In 1989 the Agency promulgated three NSPSs, proposed rules for chromium (comfort cooling towers) under the Toxic Substances Control Act, and published the proposed response to benzene litigation, along with proposed benzene NESHAPs for four source categories.

NATIONAL POLLUTANT POLICIES, STRATEGIES AND RULES

1991 Program Request

The Agency requests a total of $12,053,800 supported by 45.0 total workyears for this program, of which $2,947,500 will be for the Salaries and Expenses appropriation and $9,106,300 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $423,500 in the Salaries and Expenses appropriation, an increase of $31,400 in the Abatement, Control and Compliance appropriation, and an increase of 3.7 total workyears. The increases support increased policy analysis for acid deposition issues, implementation of the Montreal Protocol for stratospheric ozone protection (including renegotiation and recycling activities), and increased indoor air pollution activities.

The President's Clean Air proposal will provide for an expanded Agency acid rain program in 1991 that will require significantly revised program development and implementation activities. The policy component of the program will continue to provide support to the Administrator and Assistant Administrator for their participation on the Domestic Policy Council (DPC) (or its successor organization) and the U.S. Bilateral Advisory and Consultative Group (BACG). The program will also initiate a project to use existing governmental and nongovernmental networks to promote increased use of energy conservation through least-cost utility planning and alternative energy supplies. In addition, the program will ensure that the ten-year $500 million interagency National Acid Precipitation Assessment Program (NAPAP) for research is responsive to policy needs. The program will participate in the development and revision of the final NAPAP Integrated Assessment. The program will co-chair the Acid Deposition Subcommittee of the Air and Radiation Research Committee to guide the acid deposition research program. The program will also provide support to the Department of Energy (DOE) through the Innovative Control Technology Advisory Panel (ICTAP) and will help evaluate the fifth DOE solicitation. The program will review, comment on, and resolve controversial air and other environmental permit issues for Clean Coal Technology (CCT) and other non-CCT innovative control projects.

To implement and support the Montreal Protocol in 1991 EPA will develop rules on trade with non-participating nations, methods for inspection of imported goods, rules for discouraging export of chlorofluorcarbon (CFC) technologies, and ways to transfer non-CFC technologies to lesser developed countries (LDCs). The Agency will expand technical assistance to LDCs, such as India, Mexico, China, and Brazil, with an emphasis towards energy efficiency. The CFC domestic program will include administration of allocations, collection of charges, initiation of any new rulemaking required by changes in the Montreal Protocol, and consideration of a national recycling effort to create a strategic reserve for existing uses. The Agency will undertake further risk assessments and refinements to existing data. The Agency will also work with industry to improve

technology for fire fighting, refrigeration, and refrigeration systems. These efforts will focus on development of better mixtures, expansion of ammonia use, development of substitutes, and production of better foams. The Agency will expand technical assistance to private sector and Department of Defense activities for CFC/halon substitute technology. The Agency will also continue evaluations of the safety of alternative chemicals.

As part of its efforts to address global warming, EPA will explore technological options and mechanisms for control of methane emissions from livestock and will initiate evaluation of energy conservation measures. The Agency will carry out efforts to develop integrated models. The Agency will also develop a data base to inform industry and help organize responses that enhance long-term competition in domestic and foreign markets. These activities will speed development and deployment of technologies to decrease the production of greenhouse gases.

In 1991 the Indoor Air Program will provide Agency leadership and coordination within the federal establishment. EPA will maintain and expand contact with appropriate private sector organizations and state and local agencies. The Agency will issue reports on multiple chemical sensitivities and the impact of indoor air pollution on productivity. The Agency will also release a manual for conducting building investigations and a physician's handbook. In addition, the Agency will complete an initial report on the development of protocols for the identification and quantification of the "sick building syndrome."

New activities will focus on providing training programs through existing regional training centers and designing and implementing information distribution mechanisms. In 1991 EPA will complete a new two-year program to develop basic Indoor Air Quality (IAQ) training programs for state and local governments. The training programs will use guidance documents and other publications completed in 1990. In 1991 EPA will continue operation of an IAQ information clearinghouse. The Agency will also initiate a program to inform building owners and employers about the significant economic costs of indoor air pollution on the workforce. In addition, the Agency will produce information briefs for the public on new home construction techniques and smoking place policies for building occupants. Finally, the Agency will complete an international inventory of IAQ activities compiled under the aegis of the North Atlantic Treaty Organization (NATO) Committee on the Challenges of Modern Society (CCMS).

1990 Program

In 1990 the Agency is allocating a total of $11,598,900 supported by 41.3 total workyears to this program, of which $2,524,000 is from the Salaries and Expenses appropriation and $9,074,900 is from the Abatement, Control and Compliance appropriation.

In 1990 the acid rain policy program will continue responding to NAPAP, the ten-year, $500 million, interagency research program. The policy program will complete coordination of primary research on the economic aspects of the NAPAP final report. The program will continue to co-chair the Acid Deposition Subcommittee of the Air and Radiation Research Committee which guides acid deposition research. The program will continue analyses of acid rain legislative

proposals including the Clean Air Act amendments. The program will also continue support to the Administrator and Assistant Administrator for their participation on the DPC and the BACG. Also, in 1990 EPA will continue to provide advice to DOE, through the ICTAP, on DOE's five-year, $2.5 billion CCT Program. The acid rain program will continue to review, comment on, and help resolve controversial air permit application issues for CCT demonstration projects, and will assist DOE in obtaining air, water, and solid waste CCT permits.

In 1990 EPA will continue many activities started in 1989 and will initiate new efforts for stratospheric ozone protection. Domestically, the Agency will develop and refine its stratospheric ozone regulatory program, as well as operate and enforce the program established in 1989. The current rulemaking will be revised to charge market value for the privilege of producing or importing CFCs or halons. Monitoring of CFCs and halons production will continue with timely data review, additional compliance monitoring, technology reviews, better information control, and overall improved systems performance. The program will also be integrally involved in the coordination of domestic and international efforts to develop alternative technologies.

The program will continue to support the implementation of the Montreal Protocol. In 1990 EPA will participate in a series of atmospheric, environmental, technological, and economic assessments. The Agency will participate on the Protocol's working groups and ad hoc groups to negotiate U.S. technology transfer responsibilities. In addition, the Agency will continue to participate in efforts to obtain other nations' signatory approval of the Protocol and will work with other federal agencies to negotiate further revisions. The tropospheric climate warming element of the global change program will initiate exploratory analysis of some point and non-point source emissions, including methane, and their associated control technologies, and emissions impact on existing pollution control decisions.

In 1990 the indoor air program includes policy analyses; coordination within the federal establishment; participation in a NATO-CCMS inventory of indoor air activities; development and issuance of additional fact sheets on key aspects of IAQ; and development of guidance on new home construction, commercial and public building design, workplace smoking, and school IAQ management. The indoor air program will maintain and expand contact with appropriate private sector organizations and state and local agencies involved in IAQ activities. The program will initiate training activities and develop additional information on risk and economic effects of indoor air pollutants. The program will also conduct a comprehensive rural towns indoor air survey in cooperation with the Vermont Department of Health. In addition, the program will expand its analysis and conduct field studies and surveys to determine the extent of various "sick building" problems, including the issues of chemical sensitivity and building diagnostics. The indoor air program will initiate the implementation of an IAQ information clearinghouse.

1989 Accomplishments

In 1989 the Agency obligated a total of $11,229,300 supported by 30.3 total workyears, of which $1,879,900 was from the Salaries and Expenses appropriation and $9,349,400 was from the Abatement, Control and Compliance appropriation.

In 1989 the acid rain program continued to focus on acid rain policy and implementation issues. The program provided detailed legislative analysis on new and potential legislative actions under the Clean Air Act. The program also provided technical and environmental assistance to DOE on the CCT Program and NAPAP initiatives. The program issued the final report from the State Acid Rain (STAR) project. The report addresses potential acid rain control program implementation issues. The acid rain program continued to respond to petitions calling for additional control on U.S. sulfur dioxide (SO_2) and nitrogen oxides (NO_x) emissions. The program also continued support for on-going Administration discussions with Canada on a possible bilateral accord.

In 1989 EPA focused on implementation of the domestic rule for CFCs and halons and further analyses of possible follow-up activities to regulatory and non-regulatory actions. A program was established and implemented for enforcing regulatory levels on the production and consumption of CFCs and halons. This involved developing a tracking system for permits, completing and implementing a reporting and record keeping system, developing an enforcement strategy, and assessing the market responses to regulation. In addition, the program continued to perform Montreal Protocol assessments and studies to support the United Nation's Environmental Program in the international implementation of the Protocol. The program expanded international coordination among various groups and activities concerned with developing alternative technologies and transfer of technologies to lesser developing countries in 1989. The program continued to assess possible emission sources and other factors in global climate warming changes.

In 1989 the indoor air program continued to provide a framework to address indoor air problems through policy development, federal coordination, and information dissemination. In 1989 the program completed two technical documents initiated in 1988, one on the mitigation of environmental tobacco smoke and the other on prevention of building-related problems. In addition, in-house staff carried out an Agency and Interagency coordination role and developed indoor air pollution information and mitigation fact sheets. The indoor air program initiated efforts to communicate with various target groups on possible "sick building" causes and solutions. The report to Congress on the long-term federal role in indoor air quality was completed and a booklet on indoor air quality was reprinted and reissued.

STATE PROGRAM GUIDELINES AND AIR STANDARDS DEVELOPMENT

1991 Program Request

The Agency requests a total of $17,109,100 supported by 139.5 total workyears for this program, of which $9,137,300 will be for the Salaries and Expenses appropriation and $7,971,800 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $3,725,600 for the Salaries and Expenses appropriation, an increase of $3,500,900 in the Abatement, Control and Compliance appropriation, and an increase of 42.0 in total workyears from 1990. The increase will support activities that are needed to begin implementation of the President's Clean Air proposal for operating permits, acid deposition, and nonattainment.

In 1991 the Agency will continue to provide management and assistance for attainment of NAAQSs and prevention of significant deterioration (PSD). The regulatory impact analyses (RIAs) for the ozone and lead NAAQSs review will be completed and a proposal to revise or reaffirm these standards will be published. Revised or reaffirmed NAAQSs for sulfur dioxide (SO_2) will be promulgated. The criteria documents for the carbon monoxide (CO) and nitrogen dioxide (NO_2) NAAQSs review will be completed and the staff papers will be reviewed by the Clean Air Scientific Advisory Committee (CASAC). Exposure analyses, RIAs, and other regulatory support activities will also be underway for CO and NO_2 NAAQSs review.

The Agency will develop guidance and regulations needed to implement the State Implementation Plan (SIP) activities for ozone, CO, and PM-10 under new legislation. These will include developing completeness criteria, revising and issuing the list of nonattainment areas, and establishing ozone transport areas. The Agency will provide procedures and techniques for determining required emission reductions, evaluating and selecting alternative control measures, preparing control strategy demonstrations, and analyzing transport strategies in the Northeast. Assistance in identifying, adopting, and implementing nontraditional control measures that will directly involve the public (e.g., transportation controls and consumer solvent substitution) will be provided. Review and regulatory action on SIP submittals from the initial SIP calls will continue.

Review and regulatory action on PM-10 SIPs will continue, especially for newly identified nonattainment areas (Group II areas). Policy, guidance, and assistance in problem definition and development of mitigation strategies will be provided for a variety of problems contributing to long-term nonattainment. These include woodstoves, prescribed burning, agricultural activities, fugitive source and nontraditional source control measures (e.g., street cleaning), and secondary particle formation. Management and review of SIPs submitted by states will continue. Guidance and assistance to Regional Offices for developing court-ordered PM-10 Federal Implementation Plans (FIPs) will continue. Regulations to control sources contributing to visibility impairment in the Grand Canyon will be promulgated. Innovative measures to reduce the SIP backlog and expedite processing, including a computerized SIP tracking and information system, will be fully implemented.

State and local air toxics programs will be further enhanced with the implementation and revision of multi-year development plans. Technical and program support to assist states in evaluating and regulating high-risk point sources (HRPSs) and multi-pollutant urban toxics problems will continue. The new source review (NSR) program will provide guidance and assistance to Regions and states that are permitting new sources. Support to national litigation over current regulations will be provided. Rulemaking on PM-10 increments will be completed. New procedures for conducting state program audits will be implemented.

Guidance and regulations will be developed to implement anticipated new legislation for operating permits. These include model permits, standardized application forms, fee recovery requirements, and monitoring and reporting requirements. Key elements of phase I of the acid deposition program included in anticipated legislation will also be developed. These include regulations governing continuous emission monitors; the issuance, trading, and banking of

allowances; and the participation of industrial sources in the allowance system. An emissions/allowance tracking system will be developed to facilitate free and open trading. Regulations and a program for Federally-issued phase I permits will also be developed.

1990 Program

In 1990 the Agency is allocating a total of $9,882,600 supported by 97.5 total workyears to this program, of which $5,411,700 is from the Salaries and Expenses appropriation and $4,470,900 is from the Abatement, Control and Compliance appropriation.

In 1990 review of the staff paper for the lead NAAQS will be completed by CASAC and a proposal to revise or reaffirm the standard will be prepared. Work on the next round of reviews of the NAAQSs for ozone, CO and NO_2 will be underway. An evaluation of the need for an acid aerosols and/or fine particle NAAQS will also be in process.

In the SIP area, primary emphasis will be on implementing ongoing programs for CO and ozone nonattainment areas and developing and reviewing PM-10 SIPs. For ozone and CO, these activities will focus on ensuring compliance with SIP calls issued in May 1988 and November 1989, securing and reviewing revised emission inventories, and reviewing SIP clean-up rules. Guidance and assistance will be provided for long-term PM-10 nonattainment areas. PM-10 SIP submittals will be reviewed. PSD increments will be proposed for PM-10. Regulations to control sources contributing to visibility impairment in the Grand Canyon will be proposed. Guidance and assistance to Regional Offices will be provided for developing court-ordered FIPs for both ozone/CO and PM-10 nonattainment areas. Policy and regulations to improve NSR programs will be published and workshops will be held. Guidance and assistance to develop and implement state air toxics programs through multi-year development plans will continue. Workshops, emissions factors, inventory procedures, and other support will be provided to help states evaluate and regulate HRPSs and multi-pollutant urban toxic problems.

1989 Accomplishments

In 1989 the Agency obligated a total of $8,447,600 supported by 98.0 total workyears, of which $5,595,900 was from the Salaries and Expenses appropriation and $2,851,700 was from the Abatement, Control and Compliance appropriation.

NAAQS review activities in 1989 focused on lead, ozone, SO_2 and possible standards for fine particles and acid aerosols. Second-round SIP calls for deficient CO and ozone SIPs were issued. PSD increments for NO_2 were promulgated. Decisions on attributing visibility impairment in PSD Class I areas to specific sources were promulgated in four states and were proposed in three states. Revised procedures to improve and expedite SIP processing were published. Guidance and assistance were provided to Regional Offices in preparing court-ordered ozone/CO FIPs and negotiating FIP settlements in Illinois and Utah.

AIR
Mobile Source Air Pollution Control & Fuel Economy

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
PROGRAM						
Emission Standards, Technical Assessment & Characterization						
Salaries & Expenses		$4,757.3	$5,080.1	$4,908.0	$7,421.2	$2,513.2
Abatement Control and Compliance		$4,911.8	$6,174.8	$6,096.1	$11,949.7	$5,853.6
	TOTAL	$9,669.1	$11,254.9	$11,004.1	$19,370.9	$8,366.8
Testing, Technical & Administrative Support						
Salaries & Expenses		$5,243.7	$5,408.3	$5,214.3	$7,434.4	$2,220.1
Abatement Control and Compliance		$964.8	$837.2	$826.7	$850.2	$23.5
	TOTAL	$6,208.5	$6,245.5	$6,041.0	$8,284.6	$2,243.6
Emissions & Fuel Economy Compliance						
Salaries & Expenses		$2,044.3	$1,971.8	$1,900.5	$2,430.1	$529.6
Abatement Control and Compliance		$32.9	$32.7	$32.4	$133.1	$100.7
	TOTAL	$2,077.2	$2,004.5	$1,932.9	$2,563.2	$630.3
TOTAL:						
Salaries & Expenses		$12,045.3	$12,460.2	$12,022.8	$17,285.7	$5,262.9
Abatement Control and Compliance		$5,909.5	$7,044.7	$6,955.2	$12,933.0	$5,977.8
Mobile Source Air Pollution Control & Fuel Economy	TOTAL	$17,954.8	$19,504.9	$18,978.0	$30,218.7	$11,240.7
PERMANENT WORKYEARS						
Emission Standards, Technical Assessment & Characterization		74.5	84.8	83.3	113.3	30.0
Testing, Technical & Administrative Support		92.5	92.9	92.4	94.4	2.0
Emissions & Fuel Economy Compliance		30.1	35.1	33.1	37.1	4.0
TOTAL PERMANENT WORKYEARS		197.1	212.8	208.8	244.8	36.0

AIR
Mobile Source Air Pollution Control & Fuel Economy

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
TOTAL WORKYEARS					
Emission Standards, Technical Assessment & Characterization	84.3	84.8	83.3	113.3	30.0
Testing, Technical & Administrative Support	97.3	92.9	92.4	94.4	2.0
Emissions & Fuel Economy Compliance	33.6	35.1	33.1	37.1	4.0
TOTAL WORKYEARS	215.2	212.8	208.8	244.8	36.0

Mobile Source Air Pollution Control and Fuel Economy

Budget Request

The Agency requests a total of $30,218,700 supported by 244.8 total workyears for 1991, an increase of $11,240,700 and an increase of 36.0 total workyears from 1990. Of the request, $17,285,700 will be for the Salaries and Expenses appropriation and $12,933,000 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $5,262,900 in the Salaries and Expenses appropriation and an increase of $5,977,800 in the Abatement, Control and Compliance appropriation.

EMISSION STANDARDS, TECHNICAL ASSESSMENT AND CHARACTERIZATION

1991 Program Request

The Agency requests a total of $19,370,900 supported by 113.3 total workyears for this program, of which $7,421,200 will be for the Salaries and Expenses appropriation and $11,949,700 will be for the Abatement, Control and Compliance appropriation. This is an increase of $2,513,200 for the Salaries and Expenses appropriation, an increase of $5,853,600 for the Abatement, Control and Compliance appropriation, and an increase of 30.0 total workyears from 1990. The increases will support additional work related to the use of clean fuels and the implementation of the President's Clean Air Proposal.

In 1991 the mobile source standards program will continue to emphasize control of ozone precursors and air toxics and will begin implementing the aggressive program outlined in proposed Clean Air Act amendments. The emissions impact of clean fuels, such as oxygenated blends and compressed natural gas (CNG) will be investigated. Regulatory work on clean fuels will continue. Work will begin to develop new light-duty and heavy-duty vehicle emissions standards, as mandated by the expected Clean Air Act amendments. Revised light-duty truck hydrocarbon standards consistent with the expected legislative changes will be promulgated. A study of cold weather carbon monoxide (CO) emissions will be completed. Additional testing of in-use vehicles will assess the effectiveness of emission control technologies in controlling carbon monoxide emissions under cold temperature conditions. The Emissions Factor Program will continue to determine emissions from in-use vehicles. A pilot study will continue to assess sampling methodologies and their effectiveness in closing the gaps in data on actual emissions from in-use vehicles.

Additional work will be done to insure the effectiveness of the enhanced vehicle inspection and maintenance programs put into place by state and local jurisdictions. In addition, 15 audits and follow-ups of state and local inspection and maintenance programs will be completed.

1990 Program

In 1990 the Agency is allocating a total of $11,004,100 supported by 83.3 total workyears for this program, of which $4,908,000 is from the Salaries and Expenses appropriation and $6,096,100 is from the Abatement, Control and Compliance appropriation.

In 1990 the standards program is continuing to emphasize control of ozone precursors and air toxics. Work on clean fuels will expand to include emissions characterization and technology assessment for fuels such as compressed natural gas (CNG), alcohol, and propane. The regulatory program is continuing to concentrate on control of excess hydrocarbon emissions, formaldehyde, methanol, and particulates, as well as fuels. Revised light-duty truck hydrocarbon standards are being proposed. The final rule for controlling diesel fuel composition consistent with toxics particulate control will be published. Also, the final rule for heavy-duty emissions banking and trading will be promulgated. Testing of in-use vehicles to develop emission factors will be conducted. A pilot study to assess alternative sampling methodologies for developing in-use emission factors will be undertaken. The objective will be to determine the most effective way to close gaps in data on actual emissions from in-use vehicles. Support to the development of State Implementation Plans is continuing with emphasis on inspection and maintenance programs for in-use vehicles. A total of 15 formal audits and follow-ups of state and local inspection and maintenance programs are being completed.

1989 Accomplishments

In 1989 the Agency obligated a total of $9,669,100 supported by 84.3 total workyears, of which $4,757,300 was from the Salaries and Expenses appropriation and $4,911,800 was from the Abatement, Control and Compliance appropriation.

The program provided implementation assistance and review of State Implementation Plans, particularly vehicle inspection and maintenance programs. In 1989 16 inspection and maintenance program audits were carried out to assess the effectiveness of state and local efforts. A total of 40 vehicle inspection programs now operate in 64 urban areas throughout the country.

In support of the Agency's air toxics control strategy, the regulatory program continued work on control of formaldehyde and particulate matter. Characterization of emissions from vehicles powered by alternative fuels also continued, including promulgation of a rule that set standards and test procedures for methanol-fueled vehicles. With the implementation of lead phasedown, additional work was directed towards alternatives to leaded gasoline. A systematic review of the heavy-duty standards for hydrocarbons, carbon monoxide, and particulate matter continued for potential future revision.

TESTING, TECHNICAL AND ADMINISTRATIVE SUPPORT

1991 Program Request

The Agency requests a total of $8,284,600 supported by 94.4 total workyears for this program, of which $7,434,400 will be for the Salaries and Expenses appropriation and $850,200 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $2,220,100 in the Salaries and Expenses appropriation, an increase of $23,500 in the Abatement, Control and Compliance appropriation and an increase of 2.0 total workyears from 1990. The increases will support implementation of the President's Clean Air proposal and replacement of obsolete equipment.

This program will provide testing, technical, and administrative support to the operating programs of the Office of Mobile Sources at the Motor Vehicle Emissions Laboratory (MVEL) located in Ann Arbor, Michigan. Approximately 1,000 tests will be performed on prototype vehicles and 1,440 tests on in-use vehicles in support of the emissions factors and recall programs. In addition, 100 tests on new and in-use heavy-duty engines will be conducted to support the implementation and enforcement of the standards for these engines. General activities that will be supported include recall, tampering and fuel switching, standard-setting, emissions characterization, technology assessment, fuel economy, in-use vehicle emissions assessment, and motor vehicle emission certification. The support that will be provided includes: automated data processing (ADP) timesharing services, laboratory data acquisition, and computer operations; testing of motor vehicles to measure emissions and fuel economy; quality assurance and control and correlation services for EPA and industry testing programs; maintenance and engineering design of emission testing equipment; and personnel, administrative, safety, environmental compliance, and facilities support services. Testing and analysis of approximately 12,000 fuel samples collected for enforcement purposes (including volatility control) will continue.

1990 Program

In 1990 the Agency is allocating a total of $6,041,000 supported by 92.4 total workyears for this program, of which $5,214,300 is from the Salaries and Expenses appropriation and $826,700 is from the Abatement, Control and Compliance appropriation.

The 1990 program continues to focus on increasing the efficiency of the testing, technical, and administrative support operations while maintaining or expanding the quality and quantity of outputs.

Testing support to the certification, fuel economy, and in-use compliance and assessment programs continues with a total of approximately 2,440 tests scheduled for these programs in 1990. Testing activities supported at the MVEL range from performing standard, well-established engineering tests to the development and performance of new test procedures to accommodate new program needs or changing technology.

Routine testing and analysis of 12,000 fuel samples collected in the field for enforcing fuels regulations continues. Correlation programs to maintain equivalent test procedures between manufacturers and EPA continue. Test equipment maintenance, calibration, and repair services are being provided. The adequacy of existing procedures and equipment to test newer technology vehicles is being evaluated. If necessary, new equipment and procedures will be designed. In addition, personnel, facility support services, safety, ADP, and administrative management functions are provided at the MVEL.

1989 Accomplishments

In 1989 the Agency obligated a total of $6,208,500 supported by 97.3 total workyears for this program, of which $5,243,700 was from the Salaries and Expenses appropriation and $964,800 was from the Abatement, Control and Compliance appropriation.

In 1989 a total of 850 tests were conducted for certification, fuel economy labeling, and compliance programs. The MVEL performed 1600 tests on in-use vehicles in support of the recall, surveillance, and tampering/fuel switching programs; the development of emission factors; and the assessment of the effectiveness of new emissions control technology in maintaining the emission standards in use. Routine testing and analysis of 12,500 fuel samples collected in the field were performed in 1989 to enforce vehicle fuel regulations, including the newly implemented fuel volatility standards.

Basic personnel and administrative management functions, including ADP management, were provided. Also, safety and facility services, aimed at maintaining a high level of occupational safety and health, were provided.

EMISSIONS AND FUEL ECONOMY COMPLIANCE

1991 Program Request

The Agency requests a total of $2,563,200 supported by 37.1 total workyears for this program, of which $2,430,100 will be for the Salaries and Expenses appropriation and $133,100 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $529,600 in the Salaries and Expenses appropriation, an increase of $100,700 in the Abatement, Control and Compliance appropriation, and an increase of 4.0 total workyears. The increases will support implementation of the President's Clean Air proposal and the development of mobile source fees.

The emissions certification program will continue to assess the validity of applications for certification of approximately 100 original equipment manufacturers of light-duty vehicles, heavy-duty engines, and motorcycles. Participation in the certification program by importers reselling vehicles is expected to stabilize in 1991. Approximately 40 certificate holders will be bringing non-conforming imports into compliance.

In 1991 the in-use assessment program will continue to focus on the effectiveness of onboard diagnostic systems in identifying component failure. Rules to standardize such systems will be promulgated. Work will continue on

suspected problems with manufacturers' alleged use of defeat devices and more testing will be done under non-Federal Test Procedure conditions to assess the degree to which emission control devices control emissions only on the standard test cycle and do not do so in actual on-road use. Changes in certification resulting from volatility controls will be implemented. The mobile source fee regulation will be implemented.

The statutory fuel economy information program will be carried out, with the provision of 1,000 labels, 50 Corporate Average Fuel Economy (CAFE) calculations, and data for the Gas Mileage Guide. Revised CAFE and fuel economy labeling rules required by the Alternative Motor Fuels Act (AMFA) will be published. Guidance to manufacturers on implementing the changes required by these revisions will be provided.

1990 Program

In 1990 the Agency is allocating a total of $1,932,900 supported by 33.1 total workyears for this program, of which $1,900,500 is from the Salaries and Expenses appropriation and $32,400 is from the Abatement, Control and Compliance appropriation.

The emissions certification program is continuing to issue certificates of compliance to approximately 100 original equipment manufacturers of light-duty vehicles, heavy-duty engines, and motorcycles. Participation in the certification program by importers reselling vehicles will continue. Streamlined procedures for handling these new certificate holders will be promulgated. In 1990 the in-use program is placing emphasis on assessment of emission control diagnostic systems and their effectiveness in isolating emission control component failure. A rule to standardize these systems will be proposed. Work is also focusing on suspected problems with manufacturers' use of defeat devices, as well as on emissions under conditions different from the Federal Test Procedure. This additional engineering analysis will help assess the degree to which emission control devices differ relative to the standard test cycle versus actual on-road operational conditions. Work on a rule to implement the mobile source fees program will begin.

The statutory fuel economy information program is being carried out, with 1,000 labels, 50 CAFE calculations, and data for the Gas Mileage Guide being produced. Revised CAFE and fuel economy labeling rules required by AMFA will be proposed.

1989 Accomplishments

In 1989 the Agency obligated a total of $2,077,200 supported by 33.6 total workyears for this program, of which $2,044,300 was from the Salaries and Expenses appropriation and $32,900 was from the Abatement, Control and Compliance appropriation.

The emissions certification program issued certificates of compliance to approximately 100 original equipment manufacturers of light-duty vehicles, heavy-duty engines, and motorcycles. Participation in the certification program by importers reselling vehicles continued to increase. EPA issued 26 certificates of conformity to Independent Commercial Importers (ICI).

Certification engineering review continued to deter the production of vehicle designs incapable of meeting emission standards. A regulation for aftermarket parts certification was proposed. The fuel economy program generated 1,038 fuel economy labels, verified 41 CAFE calculations, and compiled data for the Gas Mileage Guide. The in-use technology assessment program examined the feasibility and reliability of onboard diagnostic systems in identifying emission control component failure.

AIR
State Programs Resource Assistance

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
PROGRAM						
Control Agency Resource Supplementation (Section 105 Grants)						
Abatement Control and Compliance		$101,478.5	$100,467.2	$99,181.4	$137,700.0	$38,518.6
	TOTAL	$101,478.5	$100,467.2	$99,181.4	$137,700.0	$38,518.6
Training						
Salaries & Expenses		$269.0	$255.2	$251.8	$262.0	$10.2
	TOTAL	$269.0	$255.2	$251.8	$262.0	$10.2
TOTAL:						
Salaries & Expenses		$269.0	$255.2	$251.8	$262.0	$10.2
Abatement Control and Compliance		$101,478.5	$100,467.2	$99,181.4	$137,700.0	$38,518.6
State Programs Resource Assistance	TOTAL	$101,747.5	$100,722.4	$99,433.2	$137,962.0	$38,528.8
PERMANENT WORKYEARS						
Training		4.0	4.0	4.0	4.0	0.0
TOTAL PERMANENT WORKYEARS		4.0	4.0	4.0	4.0	0.0
TOTAL WORKYEARS						
Training		4.2	4.0	4.0	4.0	0.0
TOTAL WORKYEARS		4.2	4.0	4.0	4.0	0.0

AIR

State Programs Resource Assistance

Budget Request

The Agency requests a total of $137,962,000 supported by 4.0 total workyears for 1991, an increase of $38,528,800 and no change in total workyears from 1990. Of the request, $262,000 will be for the Salaries and Expenses appropriation and $137,700,000 will be for the Abatement, Control and Compliance appropriation. This represents an increase in the Salaries and Expenses appropriation of $10,200 and an increase the Abatement, Control and Compliance appropriation of $38,518,600

CONTROL AGENCY RESOURCE SUPPLEMENTATION

1991 Program Request

The Agency requests a total of $137,700,000 for this program, all of which will be for the Abatement, Control and Compliance appropriation. This represents an increase of $38,518,600 to support the requirements of the President's Clean Air proposal for acid deposition, air toxics, operating permits, and NAAQSs nonattainment.

In 1991 states will continue to have major responsibility for implementation of programs to attain National Ambient Air Quality Standards (NAAQSs) for ozone and carbon monoxide (CO). Deficiencies in existing state and local stationary and mobile source control programs will be corrected, ongoing programs will be reviewed for effectiveness, monitoring and compliance programs will be continued, and State Implementation Plans (SIPs) will be initiated for those areas not in attainment. To prepare attainment plans, states must complete their efforts to develop and update ozone/CO emissions inventories with a focus on correcting deficiencies in baseline inventories and performing quality assurance on the data prior to formal submission. States will also analyze long-range transport issues, evaluate and select alternative control measures for stationary and mobile sources, and develop vehicle inspection and maintenance (I/M) strategies.

The Agency will support the following expanded activities needed to implement anticipated new Clean Air legislation: upgrade, operate, and quality control monitoring networks for ozone, CO, NO_x, and nonmethane organic compounds (NMOCs); increase inspection and enforcement actions to implement existing requirements; review program effectiveness and improve emission inventories; correct new source review programs; develop and adopt SIPs to include required provisions such as reasonably available control technology (RACT); I/M from Part D and enhanced I/M; Stage II; and reasonable further progress.

In addition to Group I SIPs for size-specific particulate matter (PM-10), states will continue to develop SIPs in any Group II or III areas which show monitored air quality violations. In addition, states will develop SIP revisions that will replace prevention of significant deterioration (PSD) increments for

total suspended particulate (TSP) with increments for PM-10. Expanded support will be provided for enforcement of existing requirements, modeling and control strategy demonstrations, and correction of new source review programs.

Air toxics control programs will continue and additional support will be provided to enable state and local agencies to implement the requirements of the President's Clean Air proposal, particularly alternative compliance exemptions which can only be issued by state and local agencies having EPA-approved permit programs. States will continue to submit sulfur dioxide (SO_2) SIP revisions for individual sources. State efforts on operating permits will focus on securing legislative authority for permit programs, fees, or submission of fees to the air pollution program. Expanded support in the area of acid deposition will allow all states having phase I sources to interact with EPA as the Agency develops phase I requirements. This will help ensure that these requirements are consistent with state regulations and will facilitate state assumption of phase II responsibilities. The Agency will continue to issue permits for new sources and support air pollution control activities on Indian lands. States will also conduct additional inspections and enforcement actions for asbestos demolition and renovation (D&R). State and local government efforts to build their capacity to identify and solve indoor air quality problems will be supported. Resources will continue to be used to support the provision of specialized training for persons involved in air pollution control at the state and local level.

In 1991 states will continue to carry out activities essential to the operation and maintenance of effective air pollution regulatory programs. These include the implementation of source surveillance and compliance programs aimed at assuring initial and continuous compliance by stationary sources subject to SIP requirements, New Source Performance Standards (NSPSs), and National Emission Standards for Hazardous Air Pollutants (NESHAPs). States will operate the state and local air monitoring system (SLAMS) networks, maintain quality assurance programs, and provide data on air quality levels, trends, and attainment status. States will continue to assume responsibility for the implementation of newly promulgated NSPSs and for the review and permitting of new sources, including those to which PSD requirements apply.

1990 Program

In 1990 the Agency is allocating a total of $99,181,400, all of which is from the Abatement, Control and Compliance appropriation.

In 1990 a major focus of the control agency support program is the implementation of post-1987 attainment requirements for ozone and CO. States will continue efforts initiated in 1989 for correcting and modifying existing regulations, control measures, programs, and procedures. These include efforts to expand the inspection and improve the compliance of Class A and B volatile organic compound (VOC) sources. A major initiative to prepare base year emissions inventories for ozone and CO nonattainment areas will continue with emphasis on quality assurance, review, and revision. States are working on revisions to their SIPs required by EPA's May 1988 SIP calls and additional SIP calls of November 1989. States are also analyzing the effectiveness of current VOC control programs in order to correct these programs if necessary. Efforts within the Northeast and Middle Atlantic states to apply the regional ozone model

to identify transport and assess control options over large areas continue. Major efforts are under way to develop other data bases such as NMOC data needed for attainment demonstration modeling. Efforts to develop projection year inventories will be initiated during 1990.

State and local agencies are continuing to implement various elements of their multi-year plans for building and implementing programs for assessing and reducing exposure to air toxics. States are continuing to prepare required PM-10 SIPs for Group I areas. In addition, states are performing necessary analyses and preparing SIPs for Group II areas where nonattainment problems have been identified. Programs to establish the required PM-10 ambient monitoring network will be completed. States continue to operate (SO_2) monitoring networks and inspect major SO_2 sources. State PSD and new source review (NSR) programs are also continuing.

States are also carrying out inspection and source monitoring programs for assuring initial and continuous compliance by all major stationary sources, including timely and appropriate responses to violations. Emphasis continues on identifying contractors that violate the asbestos D&R regulations and taking appropriate follow-up action. In addition, states are continuing to fully operate and monitor the quality of the National Air Monitoring System (NAMS) and SLAMS networks and to assume responsibility for newly promulgated NSPSs and NESHAPs.

Support for three special projects is continued from 1989. These projects are: (1) Northeast ozone and visibility studies for coordinated air use management and continued interstate coordination on ozone nonattainment and air quality; (2) an international emissions monitoring study in the El Paso/Juarez airshed; and (3) the San Joaquin Valley ozone modeling effort. In addition, support is being provided for specialized training of persons involved in air pollution control at the state and local level.

1989 Accomplishments

In 1989 the Agency obligated a total of $101,478,500, all of which was from the Abatement, Control and Compliance appropriation.

In 1989 much of the control agency support program focused on the implementation of the post-1987 attainment requirements for ozone/CO. States worked on revisions to their SIPs required by EPA's May 1988 SIP call. Efforts initiated in 1988 for correcting and modifying existing RACT regulations and other control measures for VOCs continued. The preparation of base year emissions inventories for ozone and CO nonattainment areas commenced in 1989 and the collection of NMOC data continued. States also began to analyze the effectiveness of current VOC control programs in order to determine the need to modify these programs. Efforts to expand the Class A and B VOC source inspection program and the compliance level of these sources continued. Efforts to identify multi-day transport and assess control options over large areas continued in the Northeast and Middle Atlantic states.

States continued to prepare required PM-10 SIPs for Group I areas. States also performed analyses and prepared SIPs for Group II areas where nonattainment problems were identified. Work continued on establishing the PM-10 ambient

monitoring network. States continued to operate SO_2 monitoring networks and inspect major SO_2 sources. State and local agencies continued to implement various elements of their multi-year development plans for building and implementing programs for assessing and reducing exposure to air toxics. State and local agencies worked to identify and integrate air toxics considerations into current regulatory programs for both ozone and PM-10.

States continued to carry out source inspection and monitoring programs to assure both initial and continuous compliance by major stationary sources. States continued to identify contractors that violated the asbestos D&R regulations and took appropriate follow-up actions. States also continued to operate and monitor the quality of NAMS/SLAMS networks and to assume responsibility for implementing NSPSs and NESHAPs.

Resources to support specialized training for state/local personnel involved in abatement and control activities were made available in 1989. In addition, the following four special projects were supported in 1989: (1) Northeast ozone and visibility studies for coordinated air use management and continued interstate coordination on ozone nonattainment and air quality; (2) an international emissions monitoring study in the El Paso/Juarez airshed for ozone/CO and PM-10; (3) application of the urban airshed model for the San Joaquin Valley; and (4) data analyses of emissions data from the high-altitude automobile emissions testing program in Denver.

TRAINING

1991 Program Request

The Agency requests a total of $262,000 supported by 4.0 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $10,200 for the Salaries and Expenses appropriation, and no change in total workyears from 1990.

In 1991 the Agency will continue to manage its program of training persons involved in air pollution control at the state and local level. The program will continue to develop, update, and revise short courses. In addition, self-instructional training will be provided to persons involved in abatement and air pollution control at the state and local level. Technical support will be provided to states and Regions which provide funding for planning specialty workshops and training courses.

1990 Program

In 1990 the Agency is allocating a total of $251,800 supported by 4.0 total workyears to this program, all of which is from the Salaries and Expenses appropriation.

In 1990 the Agency is managing the development, revision, and delivery of short courses and self-instructional materials with major emphasis on the development of training courses in the areas of PM-10, ozone/CO, and permitting.

The Agency is also providing technical support to states and Regions planning workshops and training courses. In addition, existing courses are being updated as a result of regulatory changes.

1989 Accomplishments

In 1989 the Agency obligated a total of $269,000 supported by 4.2 total workyears, all of which was from the Salaries and Expenses appropriation.

In 1989 self-instructional training to persons involved in air pollution control at the state and local level was provided and approximately 35 short courses were presented throughout the country. Existing courses were updated and new courses were developed.

AIR
Air Quality Management Implementation

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Air Quality Management Implementation					
Salaries & Expenses	$12,556.1	$12,763.8	$13,309.5	$15,861.6	$2,552.1
Abatement Control and Compliance	$368.9	$2,870.8	$2,831.6	$322.9	-$2,508.7
TOTAL	$12,925.0	$15,634.6	$16,141.1	$16,184.5	$43.4
TOTAL:					
Salaries & Expenses	$12,556.1	$12,763.8	$13,309.5	$15,861.6	$2,552.1
Abatement Control and Compliance	$368.9	$2,870.8	$2,831.6	$322.9	-$2,508.7
Air Quality Management Implementation TOTAL	$12,925.0	$15,634.6	$16,141.1	$16,184.5	$43.4
PERMANENT WORKYEARS					
Air Quality Management Implementation	258.2	288.7	272.8	325.7	52.9
TOTAL PERMANENT WORKYEARS	258.2	288.7	272.8	325.7	52.9
TOTAL WORKYEARS					
Air Quality Management Implementation	273.3	288.7	288.0	325.7	37.7
TOTAL WORKYEARS	273.3	288.7	288.0	325.7	37.7

Air Quality Management Implementation

Budget Request

The Agency requests a total of $16,184,500 supported by 325.7 total workyears for 1991, an increase of $43,400 and 37.7 total workyears from 1990. Of the request, $15,861,600 will be for the Salaries and Expenses appropriation and $322,900 will be for the Abatement, Control and Compliance appropriation. This represents an increase in the Salaries and Expenses appropriation of $2,552,100 and a decrease in the Abatement, Control and Compliance appropriation of $2,508,700.

AIR QUALITY MANAGEMENT IMPLEMENTATION

1991 Program Request

The Agency requests a total of $16,184,500 supported by 325.7 total workyears for this program, of which $15,861,600 will be for the Salaries and Expenses appropriation and $322,900 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $2,552,100 for the Salaries and Expenses appropriation, a decrease of $2,508,700 in the Abatement, Control and Compliance appropriation, and an increase of 37.7 in total workyears from 1990. The increases reflect support for the requirements of the President's Clean Air proposal for acid deposition, air toxics, operating permits, and nonattainment. The decrease in the Abatement, Control and Compliance appropriation represents completion of funding for selected special projects.

In 1991 the ten EPA Regional Offices will continue to implement measures to attain National Ambient Air Quality Standards (NAAQSs) for ozone and carbon monoxide (CO). The Agency will provide guidance to states in a number of areas including the development of emissions inventories, correction of existing stationary and mobile source regulations and programs, procedures and techniques for determining required emission reductions, evaluating and selecting control measures, and preparing attainment demonstrations. Ongoing control programs will be reviewed for effectiveness. State Implementation Plans (SIPs) will be reviewed as they are submitted and rulemakings will be initiated. Regional Offices will provide expanded guidance and assistance to the states for the following activities: classification of ozone/CO non-attainment areas, new source review (NSR) corrections, application of reasonably available control technology (RACT) measures, Stage II implementation, and implementation of the oxygenated fuels program. Regions will also track the implementation of SIPs and support states as they enforce rules to limit the volatility of gasoline. In addition, Regions will provide coordination of control agencies to ensure correction of identified deficiencies in draft inventories prior to their formal submission. Regions will expand their efforts to provide emission inventory guidance to states for volatile organic compounds (VOCs) and assistance in refining base year inventories, tracking progress requirements, and preparing projection and attainment year inventories.

Regions will continue to provide guidance to states on the development and submission of State Implementation Plans (SIPs) to implement the NAAQSs for size specific particulate matter (PM-10). PM-10 SIPs will be reviewed as they are submitted and rulemaking is initiated. The Regions will assist states in developing SIP revisions that will replace prevention of significant deterioration (PSD) increments for total suspended particulates with increments for PM-10. Efforts associated with the development of PM-10 Federal Implementation Plans (FIPs) will continue consistent with requirements of litigation and new legislation. Regions will provide expanded support to states in the development of NSR corrections.

State and local programs to control air toxics will be supported. Sulfur dioxide (SO_2) SIP revisions will be reviewed as they are submitted. A number of other ongoing air quality management activities will be continued including review and oversight of the air grants process, implementation of the national air audit system, support to litigation activities, and support to state NSR/PSD programs. New efforts in the Regions in the area of operating permits will focus on assisting states without legislative authority to secure such legislative changes for permit programs, fees, or submission of fees to the air pollution program.

1990 Program

In 1990 the Agency is allocating a total of $16,141,100 supported by 288.0 total workyears to this program, of which $13,309,500 is from the Salaries and Expenses appropriation and $2,831,600 is from the Abatement, Control and Compliance appropriation.

A major focus of the Regional air quality management program is the implementation of the post-1987 requirements for correcting ozone and CO nonattainment problems. The efforts to correct and improve inventories and existing regulations, control measures, programs, and procedures extend into 1990. Regions will provide detailed assistance to those areas with the most serious problems to complete the required revisions to the SIPs on schedule. Regions will review state-submitted SIP revisions and will initiate appropriate rulemaking. Considerable effort will be expended on development of court-mandated FIPs in the areas of ozone/CO and PM-10. Follow-on analyses for the Regional ozone model in the Northeast and Middle Atlantic states will be undertaken.

Ongoing implementation of other air quality management programs include: (1) reviewing and taking rulemaking action on state-submitted SIP revisions for PM-10, (2) assisting state and local agencies in implementing their multi-year development plans for improving and carrying out air toxics control programs, (3) reviewing and taking rulemaking action on state-initiated SO_2 SIP revisions, and (4) performing other functions such as managing the air grants process, selective implementation of the National Air Audit System, and assisting states in the implementation of the programs for PSD, including development of nitrogen dioxide (NO_2) PSD increments and NSR.

In 1990 support is provided for the following special projects: (1) development of the urban airshed model to support a FIP for the Chicago area; (2) a three-year environmental health study in Louisiana to identify priorities

for controlling and correcting environmental pollution problems; (3) a Sacramento ozone modeling effort in support of a FIP; and (4) an alternative fuels options demonstration project in the South Coast Air Quality District.

1989 Accomplishments

In 1989 the Agency obligated a total of $12,925,000 supported by 273.3 total workyears, of which $12,556,100 was from the Salaries and Expenses appropriation and $368,900 was from the Abatement, Control and Compliance appropriation.

In 1989 one of the major priorities of the Regional air quality management program was implementation of post-1987 requirements for correcting ozone and CO nonattainment area problems. The Regional Offices continued to work with state and local agencies to correct and improve existing regulations, control measures, and overall program effectiveness. Work on the regional ozone model in the Northeast and Middle Atlantic states continued with the completion of monitoring activities and data base development.

The Regions also reviewed, processed, and took rulemaking actions on state-submitted SIP revisions for PM-10 and for SO_2. The SIP reform process was implemented by the Regions and resulted in a significant number of "backlog" SIP revisions being processed in 1989. Assistance was provided to state and local agencies for implementing multi-year development plans for improving air toxics programs. The Regions also continued to manage the air programs grant process and assist states in the implementation of the PSD and NSR programs. Considerable effort was expended on development of court-mandated FIPs for ozone/CO nonattainment areas and negotiation of FIP settlements in Illinois and Utah.

AIR
Trends Monitoring & Progress Assessment

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Ambient Air Quality Monitoring					
Salaries & Expenses	$3,769.5	$3,978.8	$3,860.9	$4,455.9	$595.0
Abatement Control and Compliance	$301.9	$118.9	$116.5	$122.8	$6.3
TOTAL	$4,071.4	$4,097.7	$3,977.4	$4,578.7	$601.3
Air Quality & Emissions Data Management & Analysis					
Salaries & Expenses	$4,366.5	$4,401.1	$4,279.8	$6,026.0	$1,746.2
Abatement Control and Compliance	$4,006.7	$6,354.7	$6,273.6	$10,269.4	$3,995.8
TOTAL	$8,373.2	$10,755.8	$10,553.4	$16,295.4	$5,742.0
TOTAL:					
Salaries & Expenses	$8,136.0	$8,379.9	$8,140.7	$10,481.9	$2,341.2
Abatement Control and Compliance	$4,308.6	$6,473.6	$6,390.1	$10,392.2	$4,002.1
Trends Monitoring & Progress Assessment TOTAL	$12,444.6	$14,853.5	$14,530.8	$20,874.1	$6,343.3
PERMANENT WORKYEARS					
Ambient Air Quality Monitoring	78.2	86.2	82.4	86.2	3.8
Air Quality & Emissions Data Management & Analysis	79.1	80.5	79.0	92.0	13.0
TOTAL PERMANENT WORKYEARS	157.3	166.7	161.4	178.2	16.8
TOTAL WORKYEARS					
Ambient Air Quality Monitoring	83.0	86.2	86.1	86.2	.1
Air Quality & Emissions Data Management & Analysis	81.0	80.5	79.0	92.0	13.0
TOTAL WORKYEARS	164.0	166.7	165.1	178.2	13.1

Trends Monitoring and Progress Assessment

Budget Request

The Agency requests a total of $20,874,100 supported by 178.2 total workyears for 1991, an increase of $6,343,300 and 13.1 total workyears from 1990. Of the request, $10,481,900 will be for the Salaries and Expenses appropriation and $10,392,200 will be for the Abatement, Control and Compliance appropriation. This represents an increase in the Salaries and Expenses appropriation of $2,341,200 and an increase of $4,002,100 in the Abatement, Control and Compliance appropriation.

AMBIENT AIR QUALITY MONITORING

1991 Program Request

The Agency requests a total of $4,578,700 supported by 86.2 total workyears for this program, of which $4,455,900 will be for the Salaries and Expenses appropriation and $122,800 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $595,000 for the Salaries and Expenses appropriation, an increase of $6,300 in the Abatement, Control and Compliance appropriation, and an increase of 0.1 in total workyears from 1990. The increase in the Salaries and Expenses appropriation will support increased personnel costs and upgrading the capacity of EPA Regional laboratories.

In 1991 the ten EPA Regional Offices will continue overview and management of state air monitoring programs including grants review, coordination of emission and air quality data bases, and validation of data from the National Air Monitoring System (NAMS) and the State and Local Air Monitoring System (SLAMS) data base. Data analyses including air quality trend information will be developed as input to the Regional Trend Reports.

In the area of quality assurance, significant resources will be used for on-site systems audits of state networks and monitors. In addition, the Regional laboratories will continue to participate in the national air audit program. Size-specific particulate matter (PM-10) monitors established or moved during 1990 will require review and site visits to verify compliance with EPA air monitoring regulations. Reviews of PM-10 ambient data and sampling frequency will be performed and will include data critical to classification determinations and identification of possible control strategies.

Regional Office implementation of the Toxics Air Monitoring System (TAMS) network will involve coordinating operational improvements with the Office of Research and Development and state and local agencies. Resources will also be used to provide monitoring/quality assurance support and technical assistance to states in evaluating the source impact of specific toxic air pollutants from sources considered for regulation under state control programs. Support for state and local toxics efforts in urban areas will continue with management,

coordination, and technical assistance provided to complete or refine toxics emission data bases and to improve state and local ambient monitoring capabilities.

Technical oversight and support will be provided to state and local programs developing data bases needed to prepare State Implementation Plans (SIPs). This will include data bases for 101 ozone areas and 44 carbon monoxide (CO) areas, as well as for additional areas that exceed National Ambient Air Quality Standards (NAAQSs) in 1989 or 1990. This effort will include limited coordination of the periodic nonmethane organic compounds/nitrogen oxides sampling programs. Oversight of revisions to the CO and ozone ambient networks will continue with emphasis on evaluating networks for newly identified nonattainment areas and implementing corrective actions. The Regions will continue to provide quality assurance support to Indian tribal units and to assist in developing ambient monitoring programs.

1990 Program

In 1990 the Agency is allocating a total of $3,977,400 supported by 86.1 total workyears to this program, of which $3,860,900 is from the Salaries and Expenses appropriation and $116,500 is from the Abatement, Control and Compliance appropriation.

In 1990 TAMS is being operated at two sites in Boston and two sites in Houston. The Regions are continuing to work with states in identifying and eliminating air monitoring sites that have marginal utility and in implementing changes needed to adequately monitor all areas where revised SIPs for ozone and CO are being prepared. To support the development of post-1987 ozone/CO SIPs, Regional Office efforts to improve the quality and timeliness of ambient and emission data bases are continuing.

The Regions are continuing their programs of on-site visits to review and audit NAMS monitors and a small percentage of SLAMS monitors and to review laboratories for proper operating and quality assurance procedures. The validation, management, and coordination of state and local air quality and emission data bases before they are submitted to EPA's central data bank are continuing. Quality assurance activities and state audits are continuing and participation in the National Air Audit System (NAAS) is also continuing.

The Regions will continue to have active roles in overseeing State and local sampling networks for PM-10 established in 1988 and 1989. As part of their oversight of ongoing PM-10 sampling programs the Regions are active in reviewing and interpreting ambient data and in coordinating state adjustments to sampling frequency at sites that exceed PM-10 NAAQS. The Regions are also involved in preparing and validating ambient data bases needed to implement the initial nonattainment designations required under pending revisions to the Clean Air Act. The Regions will also continue to provide quality assurance support to Indian tribal units and to assist in developing ambient monitoring programs.

1989 Accomplishments

In 1989 the Agency obligated a total of $4,071,400 supported by 83.0 total workyears, of which $3,769,500 was from the Salaries and Expenses appropriation and $301,900 was from the Abatement, Control and Compliance appropriation.

In 1989 the Regional Offices coordinated the collection, validation, and submission of ambient data necessary to support EPA actions calling for revised SIPs for ozone and CO. In addition, the Regions assisted states in implementing network plans for ambient monitoring of PM-10 and developing quality assurance plans necessary to meet EPA requirements. On-site audits of 300 monitors were conducted including 45 proposed or newly established PM-10 sites. The Regions also assisted 62 state and local agencies in assessing potential risks from toxic pollutants through ambient sampling and 51 agencies in developing emission inventories.

AIR QUALITY AND EMISSION DATA MANAGEMENT AND ANALYSIS

1991 Program Request

The Agency requests a total of $16,295,400 supported by 92.0 total workyears for this program, of which $6,026,000 will be for the Salaries and Expenses appropriation and $10,269,400 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $1,746,200 for the Salaries and Expenses appropriation, an increase of $3,995,800 in the Abatement, Control and Compliance appropriation, and an increase of 13.0 workyears from 1990. The increases reflect support for the requirements of the President's Clean Air proposal for air toxics and NAAQSs nonattainment.

Both of the Aerometric Information Retrieval System (AIRS) Subsystems will be maintained and guidance will be provided to users. A total of 12 to 15 additional states will be provided with access to the Facility Subsystem. New software to support high priority reports and analyses will be implemented for both Subsystems. Additional AIRS software to track, summarize, and display air quality and emission data relating to ozone and CO regulatory programs will be developed.

Efforts to develop improved methods for compiling emissions inventories will continue as will efforts to develop and issue PM-10 emission factors for significant sources of particulates. Support of Headquarters, Regional Office, and state and local modeling of both NAAQS and toxics pollutants will continue as will on-going efforts to evaluate model accuracy and provide refined models and guidance. Implementation of the Agency's toxic monitoring strategy will continue. Emission testing support will continue and include technical support to state and local agencies. The program will also continue to prepare analyses of ambient and emission trends, issue status and trends reports and provide national oversight of SIP ambient monitoring.

Technical support to the ozone/CO program will continue. New or slightly expanded support will be provided in four critical areas: (1) Development of a new system for storing, retrieving, and analyzing emissions inventory data on smaller (area) sources. This will complement related EPA capabilities for

handling inventory data from large (point) sources and will be a major module of AIRS. (2) Provision of ambient monitoring guidance and support to facilitate the correction of deficiencies in current networks, the establishment of long-term networks for sampling ozone precursors, and the implementation of enhanced networks in newly identified areas. (3) Development of technical guidance for the future application of urban grid models, provision of technical and operational support to State and local modeling efforts for both CO and ozone areas, and initiation of work on long-term application of regional oxidant models in three regions. (4) Initiation of programs for managing, tracking, and quality assuring emission inventory data including data quality reviews of SIP inventories for national consistency. Also, efforts will be initiated to develop prescriptive requirements for preparing point and area source inventories.

The Agency will provide expanded air toxics support in four areas: (1) Development of emission test methods for maximum achievable control technology (MACT) standards to be issued within two and four years of enactment of expected legislative changes; (2) Provision of technical support to states on test method application; (3) Development of emission factors to support state implementation of toxics programs; and (4) Conduct of dispersion analyses for proposed MACT standards and to assist in developing guidance for demonstrating alternative compliance.

1990 Program

In 1990 the Agency is allocating a total of $10,553,400 supported by 79.0 total workyears to this program, of which $4,279,800 is from the Salaries and Expenses appropriation and $6,273,600 is from the Abatement, Control and Compliance appropriation.

In 1990 priority is given to four areas: (1) Providing active support to the ten EPA Regional Offices and to an expanding number of state users of the Air Quality Subsystem of AIRS; (2) Providing training, documentation, and access to the AIRS Facility Subsystem to the Regions and 20-24 states; (3) Providing guidance and consultation on techniques required to assess attainment of the NAAQSs for PM-10, revising ambient networks and sampling frequencies, applying models for SIP analyses and developing and applying emission factors to the PM-10 SIP inventories; and (4) To broadly support Regional Office and state efforts relating to future ozone and CO SIP revisions including the review of ambient networks, the development of specialized software to summarize and display air quality and emission data; guidance for preparing, submitting, and revising draft emission inventories; assistance in preparing data bases and applying grid and statistical models; and completion of the multi-year project to assess the regional transport of ozone and precursors in the Northeast and Middle Atlantic states.

Technical analyses to support reviews of the NAAQSs for ozone and lead will continue. The air toxics program includes continued implementation of the ambient monitoring strategy with oversight of the TAMS network in two cities and analyses of ambient levels for selected toxic compounds. Guidance will be issued to support SIP inventories for PM-10 and ozone/CO including the development of new factors for six PM-10 source categories. Reviews of draft ozone/CO inventories will be performed and support will be provided to Regional Offices for deficiency correction. Guidance will be furnished to Regions and state and

local agencies on applying models to provide screening estimates of air quality for toxic pollutants. The evaluation and refinement of dispersion models continues as does support and guidance on model application for all NAAQS pollutants and for those pollutants under assessment for possible regulation. Efforts to develop improved inventory methodologies and to prepare design specifications for the AIRS Area Source Subsystem are continuing. Emission testing support will be provided to Headquarters offices responsible for developing or revising emission standards and an information center will be operated to provide technical support to state and local agencies in applying test methods used in SIP compliance and for non-routine tests. The program is continuing to analyze ambient and emission trends for NAAQS pollutants, prepare various status and trends reports, and provide national oversight of SIP ambient monitoring.

1989 Accomplishments

In 1989 the Agency obligated a total of $8,373,200 supported by 81.0 total workyears, of which $4,366,500 was from the Salaries and Expenses appropriation and $4,006,700 was from the Abatement, Control and Compliance appropriation.

In 1989 comprehensive user support and enhanced software was provided to over 40 agencies using the AIRS Air Quality System. Other significant AIRS activities included the completion and testing of the initial software for the Facility Subsystem, the addition of 14 states to the Air Quality Subsystem user community, and substantial progress in documenting requirements for the new AIRS Area Source System. Guidance was issued and workshops were held to structure the preparation of baseline ozone and CO inventories. Software was developed and issued to facilitate submission and quality assurance of these draft inventories. Other major activities included: development of data bases and simulation of base case strategies for a project to apply EPA's Regional Oxidant Model to the Northeast and Middle Atlantic states; publication of the Air Quality and Emissions Trend Report for 1987; providing technical support to the Regional Offices and states on application of emission factors for PM-10 and other pollutants; application of urban grid models for ozone to five cities; and the initiation of a new center to provide technical support to state and local agencies in applying emission test methods.

Enforcement

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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AIR
Stationary Source Enforcement

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Stationary Source Compliance					
Salaries & Expenses	$12,819.5	$13,550.5	$13,722.9	$18,617.0	$4,894.1
Abatement Control and Compliance	$2,938.4	$4,405.8	$4,349.6	$6,525.7	$2,176.1
TOTAL	$15,757.9	$17,956.3	$18,072.5	$25,142.7	$7,070.2
TOTAL:					
Salaries & Expenses	$12,819.5	$13,550.5	$13,722.9	$18,617.0	$4,894.1
Abatement Control and Compliance	$2,938.4	$4,405.8	$4,349.6	$6,525.7	$2,176.1
Stationary Source Enforcement TOTAL	$15,757.9	$17,956.3	$18,072.5	$25,142.7	$7,070.2
PERMANENT WORKYEARS					
Stationary Source Compliance	280.4	311.8	294.4	362.0	67.6
TOTAL PERMANENT WORKYEARS	280.4	311.8	294.4	362.0	67.6
TOTAL WORKYEARS					
Stationary Source Compliance	294.2	311.8	310.6	362.0	51.4
TOTAL WORKYEARS	294.2	311.8	310.6	362.0	51.4

Stationary Source Enforcement

Budget Request

The Agency requests a total of $25,142,700 supported by 362.0 total workyears for 1991, an increase of $7,070,200 and 51.4 total workyears from 1990. Of the request, $18,617,000 will be for the Salaries and Expenses appropriation and $6,525,700 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $4,894,100 in the Salaries and Expenses appropriation and an increase of $2,176,100 in the Abatement, Control and Compliance appropriation.

STATIONARY SOURCE ENFORCEMENT

1991 Program Request

The Agency requests a total of $25,142,700 supported by 362.0 total workyears for this program, of which $18,617,000 will be for the Salaries and Expenses appropriation and $6,525,700 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $4,894,100 for the Salaries and Expenses appropriation, an increase of $2,176,100 for the Abatement, Control and Compliance appropriation, and an increase of 51.4 in total workyears from 1990. The increase will help initiate implementation of the requirements of the President's Clean Air proposal for air toxics, acid deposition, and administrative enforcement. The increase will also help support implementation of strategies for three National Emission Standards for Hazardous Air Pollutants (NESHAPs): benzene, radionuclides, and asbestos demolition and renovation (D&R), as well as enhancing the program for certification of woodstove production lines. In addition, EPA will increase compliance oversight and expand rule applicability and effectiveness efforts.

In 1991 the ten EPA Regional Offices will continue their compliance monitoring and enforcement efforts, in concert with states, to ensure compliance with State Implementation Plan (SIP) requirements, new source performance standards (NSPSs), and NESHAPs. The Regions will continue implementation of the strategies for the asbestos D&R program and for benzene, as well as initiatives to enforce the other NESHAPs. The Regions will conduct asbestos D&R inspections and provide additional support to states in following through on their enforcement of D&R activities. The Regions also will use additional resources to support compliance and enforcement of the benzene NESHAPs through the conduct of 125 inspections and initiation of five enforcement actions and of the radionuclide NESHAPs through the inspection of 50 sources and initiation of three enforcement actions.

The Regions will carry out an expanded rule-effectiveness program that covers other source and pollutant categories. The Regions also will continue to implement the compliance monitoring and inspection targeting program to ensure better use of inspection resources. In addition, the Regions will emphasize building state capacity through an expanded review and SIP assistance program

for assuring the enforceability of new requirements and targeting compliance efforts toward significant environmental problems. The Regions will direct resources toward implementation of a more effective program for reviewing ozone SIPs and SIP revisions for enforceability. In addition, the Regions will review proposed SIPs for size-specific particulate matter (PM-10) for enforceability and will ensure compliance by sources subject to newly promulgated PM-10 SIPs. The Regions will also continue enforcement of continuous emission monitoring (CEM) requirements for sulfur dioxide (SO_2) sources.

In 1991 the Headquarters enforcement program will provide national program management through policy guidance, planning, and budgeting activities, and through review of selected Regional activities and program performance. Headquarters will also assure the enforceability of proposed Agency regulations under NSPS, NESHAPs, and prevention of significant deterioration (PSD) programs; respond to formal inquiries; manage the Compliance Data System (CDS), the National Asbestos Registry System (NARS), and the compliance portion of the Aerometric Information Retrieval System (AIRS); manage the level of effort contract for case development and other support; and conduct technical studies. Headquarters will continue to implement the technical agenda by developing jointly with the Regions a planned list of technical projects to be initiated in 1991. In addition, Headquarters will provide national leadership to help assure the successful implementation of the revised asbestos D&R strategy.

During 1991 EPA Headquarters will help increase compliance of sources of volatile organic compounds (VOCs) through providing technical and training support to the Regions and state agencies, issuing policy guidance, monitoring compliance and enforcement activities, and overviewing the implementation of the rule-effectiveness protocol. In addition, Headquarters will continue implementing the laboratory program for woodstove testing, reviewing applications for woodstove certification, monitoring certification tests, and certifying production lines. The woodstove program will move into the second phase of certification and enforcement. Additional resources will support implementation of the random compliance audit program. Approximately 250 woodstove production lines will be certified during 1991.

In 1991 Headquarters enforcement staff will review proposed PM-10 and ozone/carbon monoxide (CO) SIPs for national enforceability issues. Headquarters will also evaluate the effectiveness of state and EPA compliance monitoring and inspection programs. In addition, Headquarters will continue to promote the use of CEM and develop national guidance for CEM requirements.

In 1991 EPA will expand Headquarters and Regional enforcement support to the stratospheric ozone depletion program for implementing the Montreal Protocol. The Agency will increase review of the phaseout of CFCs and halons through monitoring compliance of manufacturers and importers. The Agency expects the number of violators identified and enforcement actions taken to increase as a result. Headquarters will develop and disseminate implementation guidance for the radionuclides and benzene NESHAPs. As more regulations are implemented, the need for consistency increases. As a result, the Agency anticipates an increase in requests for rule applicability determinations and will develop guidance for making such determinations. In addition, Headquarters will provide direction and oversight of air toxics compliance and enforcement efforts resulting from anticipated new legislative requirements, particularly in those states where delegations of authority for both existing and prospective standards have not

been requested. EPA will also ensure that compliance requirements are reflected in all new regulations and guidance developed for the anticipated acid deposition program. In addition, the Agency will develop guidance for implementation of administrative enforcement requirements resulting from anticipated legislation.

1990 Program

In 1990 the Agency is allocating a total of $18,072,500 supported by 310.6 total workyears to this program, of which $13,722,900 is from the Salaries and Expenses appropriation and $4,349,600 is from the Abatement, Control and Compliance appropriation.

In 1990 the Regional air compliance program is continuing to monitor and ensure the compliance of the 28,000 largest stationary SIP sources, the 2,600 NSPS sources, and the 1,000 nontransitory NESHAPs sources. The Regions are also continuing implementation of the NESHAPs program for asbestos D&R addressing approximately 5,000 contractors and 60,000 notifications.

Major 1990 activities include: continuing the initiative to enhance VOC source compliance in ozone nonattainment areas, implementing a comprehensive program to determine whether adopted VOC measures are being effectively implemented, and conducting VOC compliance workshops to improve the quality of inspections. Other activities in 1990 include ensuring that states continue to enforce existing total suspended particulate (TSP) requirements during the development of PM-10 SIPs and ensuring that SO_2 sources meet, where applicable, CEM requirements. The Regions are continuing their efforts to help improve the technical capabilities of state and local air pollution agencies. Federal enforcement actions, where required, focus on violating sources in nonattainment areas, with particular emphasis on VOC sources and toxic air pollutant sources. EPA works closely with the states in this effort through implementation of Agency guidance on "timely and appropriate" enforcement actions. The Agency provides technical support to the ongoing litigation docket including criminal enforcement activities.

In 1990 EPA Headquarters continues to provide national program management and oversight of the Regional programs to ensure nationwide consistency and effectiveness. The oversight includes a combination of comprehensive program reviews and reviews of certain classes of enforcement actions. Headquarters continues to assure the enforceability of proposed EPA regulations; manage the CDS, including CDS activities related to the development of the new AIRS Facility Subsystem, and the NARS; manage the level of effort contract support program; develop technical and program guidance; and conduct planning and budgeting activities.

In 1990 the Agency is implementing the compliance monitoring and inspection targeting strategy, a major activity that will allow Regional Offices and state agencies to better use their compliance resources. Headquarters is continuing implementation of the NSPS woodstoves program, including the review of applications for woodstoves certification, the monitoring of certification tests, and the evaluation of test results. Headquarters is also continuing the program to improve VOC compliance. This program includes oversight and evaluation of the Regional and state efforts to implement enhanced VOC compliance monitoring and inspection activities, the rule-effectiveness assessments, and the small VOC source strategy. Also, Headquarters is developing a comprehensive training

program and compliance determination guides for selected categories of VOC sources. Work to promote use of CEM requirements, including support for Regional and state efforts, also continues to be a major activity. The CFC phasedown effort is in its first year with emphasis placed on stepped-up compliance and enforcement program building.

1989 Accomplishments

In 1989 the Agency obligated a total of $15,757,900, supported by 294.2 total workyears, of which $12,819,500 was from the Salaries and Expenses appropriation and $2,938,400 was from the Abatement, Control and Compliance appropriation.

In response to a need to improve the compliance program, EPA Headquarters, in concert with the Regional Offices, initiated a systematic review of existing guidance documents and source targeting procedures. As a result of this review, the Agency initiated a series of new guidance documents which, when completed, will enable the Regions and states to better target the most pressing environmental compliance problems. The Agency continued its focus on sources of toxic air pollutants, especially sources of asbestos. The Agency completed NARS, a significant component of the revised asbestos D&R strategy. This system allows implementing agencies to focus their enforcement efforts on companies with a history of violating the standards. The compliance program advanced its efforts in the area of technical assistance and training by accomplishing several projects identified through the technical agenda process. These projects included efforts in the areas of communications, VOCs, asbestos, and training and workshops.

AIR
Mobile Source Enforcement

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Mobile Source Enforcement					
Salaries & Expenses	$5,354.9	$5,928.0	$5,709.4	$7,879.7	$2,170.3
Abatement Control and Compliance	$2,331.1	$3,328.1	$3,272.6	$5,116.1	$1,843.5
TOTAL	$7,686.0	$9,256.1	$8,982.0	$12,995.8	$4,013.8
TOTAL:					
Salaries & Expenses	$5,354.9	$5,928.0	$5,709.4	$7,879.7	$2,170.3
Abatement Control and Compliance	$2,331.1	$3,328.1	$3,272.6	$5,116.1	$1,843.5
Mobile Source Enforcement TOTAL	$7,686.0	$9,256.1	$8,982.0	$12,995.8	$4,013.8
PERMANENT WORKYEARS					
Mobile Source Enforcement	95.5	113.8	111.3	120.3	9.0
TOTAL PERMANENT WORKYEARS	95.5	113.8	111.3	120.3	9.0
TOTAL WORKYEARS					
Mobile Source Enforcement	99.9	113.8	111.3	120.3	9.0
TOTAL WORKYEARS	99.9	113.8	111.3	120.3	9.0

Mobile Source Enforcement

Budget Request

The Agency requests a total of $12,995,800 supported by 120.3 total workyears for this program, of which $7,879,700 will be for the Salaries and Expenses appropriation and $5,116,100 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $2,170,300 in the Salaries and Expenses appropriation, an increase of $1,843,500 in the Abatement, Control and Compliance appropriation, and an increase of 9.0 total workyears.

MOBILE SOURCE ENFORCEMENT

1991 Program Request

The Agency requests a total of $12,995,800 supported by 120.3 total workyears for this program, of which $7,879,700 will be for the Salaries and Expenses appropriation and $5,116,100 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $2,170,300 in the Salaries and Expenses appropriation, an increase of $1,843,500 in the Abatement, Control and Compliance appropriation, and an increase of 9.0 total workyears. The increases reflect the additional resources needed to implement provisions of the President's proposed Clean Air Act Amendments.

In support of the ozone control policy, the EPA recall program will investigate 25 suspect light-duty vehicle classes and carry out related diagnostic evaluation and remedy development work. The Agency will continue investigations of trucks. In addition, the Agency will continue investigations into the operations of importers of non-conforming vehicles to ensure that certification procedures are adequately implemented. The Selective Enforcement Audit (SEA) program will conduct ten audits of light-duty vehicle manufacturer facilities, five audits of heavy-duty manufacturer facilities, and four production compliance audits in support of the nonconformance penalties (NCP) program to ensure that new production vehicles and engines meet emissions and NCP requirements.

The field enforcement program will consist of inspections of vehicle fueling facilities as well as the investigation of suspected tampering and misfueling incidents. Enforcement of Phase II of the fuel volatility rules will involve the inspection and sampling of 10,000 refiners, importers, distributors, and retail outlets throughout the country. These inspections are expected to lead to the prosecution of approximately 450 violations of the volatility limits. The fuels inspection effort will also continue the program of sampling fuels for alcohol and other fuel additives to ensure that legal limits are not exceeded. Lead phasedown enforcement (to ensure that refineries, importers, and distributors are complying with the lead phasedown rules) will decrease and involve only five audits of these fuel facilities. A total of 450 tampering investigations will result in approximately 75 notices of violation. The Agency will audit the incidence of tampering and fuel switching at 15 sites primarily

to gauge the effectiveness of the anti-tampering programs being implemented by state and local jurisdictions. EPA will continue to assist with the development of state and local programs aimed at preventing tampering and fuel switching.

1990 Program

In 1990 the Agency is allocating a total of $8,982,000 supported by 111.3 total workyears for this program, of which $5,709,400 is from the Salaries and Expenses appropriation and $3,272,600 is from the Abatement, Control and Compliance appropriation.

EPA is continuing the recall program with the investigation of 25 suspect light-duty classes, together with related diagnostic evaluation and remedy development work. The Agency is also continuing the implementation of the regulatory revisions to the imports program. The program is processing an estimated 5,000 applications for importation of nonconforming vehicles. The SEA program is conducting 10 audits of light-duty manufacturer facilities and five audits of heavy-duty manufacturer facilities to ensure that new production vehicles and engines meet emission requirements. Four Production Compliance Audits will be completed. The Agency will answer approximately 1,800 consumer inquiries on emission warranty issues. The Agency will also begin enforcement of Phase II of the fuel volatility rules involving the inspection and sampling of 10,000 refiners, importers, distributors, and retail outlets throughout the country. These inspections, along with the anti-tampering and anti-fuel switching enforcement programs, are expected to result in 500 notices of violations. Audits of tampering and fuel switching are being carried out at 15 sites. EPA is continuing to assist with the implementation and assessment of state and local programs aimed at preventing tampering and fuel switching.

1989 Accomplishments

In 1989 the Agency obligated $7,686,000 supported by 99.9 total workyears for this program, of which $5,354,900 was from the Salaries and Expenses appropriation and $2,331,100 was from the Abatement, Control and Compliance appropriation.

Under the recall program, EPA conducted 28 light-duty vehicle investigations resulting in recalls affecting nearly 5,500,000 vehicles. The Agency issued two California waivers. The SEA program conducted fourteen audits of light-duty manufacturer facilities and seven audits of heavy-duty manufacturer facilities to ensure that new production vehicles and engines meet emissions requirements. The Agency responded to inquiries and applications for the importation of nonconforming vehicles, processing 14,000 applications.

During the first season of fuel volatility enforcement, EPA inspected nearly 4,000 refineries, importers, distributors, and retail outlets over a period of three and a half months. These inspections are expected to result in 60-75 notices of violation. The Agency continued its anti-tampering and anti-fuel switching enforcement program. Accomplishments included the establishment of three new programs by states and localities and the issuance of 417 notices of violation in the tampering and fuels enforcement programs.

3. Water Quality

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ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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WATER QUALITY

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
APPROPRIATION					
Salaries & Expenses	$107,479.4	$116,565.1	$114,765.1	$127,456.4	$12,691.3
Abatement Control and Compliance	$169,320.6	$222,569.7	$219,595.6	$238,881.3	$19,285.7
Research & Development	$8,540.7	$11,157.4	$10,978.8	$12,758.8	$1,780.0
TOTAL, Water Quality	$285,340.7	$350,292.2	$345,339.5	$379,096.5	$33,757.0
PERMANENT WORKYEARS	2,012.8	2,293.0	2,135.0	2,311.8	176.8
TOTAL WORKYEARS	2,145.2	2,294.0	2,225.9	2,311.8	85.9
OUTLAYS	$270,382.5	$334,643.9	$333,127.9	$358,749.0	$25,621.1
AUTHORIZATION LEVELS	The Water Quality Act of 1987 reauthorized this program at a level of $410,270.0 for 1989, $410,270.0 for 1990. Authorization for the Clean Water Act as amended in 1987 expired on September 30, 1989. Reauthorization is pending.				

WATER QUALITY

OVERVIEW AND STRATEGY

The legislative basis for EPA's water quality programs is provided in the Clean Water Act, as amended; the Marine Protection, Research and Sanctuaries Act, as amended; and the Marine Plastic Pollution Research and Control Act of 1987. These laws direct EPA to take measures to protect the nation's waters in order to safeguard public health, recreational uses and aquatic life.

The Water Quality Act (WQA) of 1987, which amended the Clean Water Act, expanded and strengthened the statute through a number of changes designed to enhance water quality and improve the well-defined partnership between EPA and the states. The amended Act ratifies existing programs (e.g., technology-based and water quality-based effluent limits for point source dischargers). It also provides new tools to strengthen existing programs (e.g., mandatory permits to control sewage sludge contamination and administrative penalties to streamline enforcement actions) and establishes new approaches to address existing water pollution problems (e.g., new programs for control of nonpoint source pollution and permitting of stormwater discharges). Finally, the amended Act provides funds to capitalize state revolving loan funds and mandates requirements to address existing and emerging problems (e.g., surface water toxic control programs). The WQA gives legislative recognition to three programs which address near coastal waters problems: the National Estuary, Chesapeake Bay and Great Lakes Programs.

The Marine Protection, Research and Sanctuaries Act (MPRSA) is designed to protect the ocean from unregulated dumping of material that would endanger human health, public welfare, the marine environment, or economic potential. The Act authorizes the Agency to develop criteria for ocean disposal of industrial waste, municipal sludges and other dredged materials. EPA is authorized to designate disposal sites and is responsible for the management and monitoring of these sites. EPA is authorized to issue permits for all non-dredged materials; however, the Corps of Engineers is responsible for issuing permits for dredged material, using human health and marine impact criteria developed by EPA.

The Ocean Dumping Ban Act, which amended the MPRSA, sets a December 1991 deadline to end ocean dumping of sewage sludge and industrial waste. EPA is to issue dumping permits and negotiate agreements with the dumpers that include a schedule for the ending of ocean dumping and for implementation of alternative disposal systems. The legislation imposes two disposal fees on permitted dumpers: an administrative fee to cover the costs of carrying out the Act and a punitive fee to be paid by dumpers who cannot end ocean dumping in 1991.

The Marine Plastic Pollution Research and Control Act of 1987 implements Annex V of the International Convention for the Prevention of Pollution from Ships (1973) and establishes programs to identify and reduce the effects of plastic pollution on the marine environment. Under this law, EPA was required to submit a report to Congress on methods to reduce plastic pollution; assist the National Oceanic and Atmospheric Administration in conducting a public

education program; prepare a New York Bight Restoration Plan; and submit a report to Congress on the problems associated with plastic debris in the New York Bight.

Water quality programs in 1991 will continue to focus on building state and local capacity to protect high risk, vulnerable ecosystems from pollution; protecting the nation's surface waters from toxic and hazardous point source discharges; preventing and controlling nonpoint sources of pollution; and maintaining the progress made to date in cleaning up and developing the infrastructure to protect our surface waters. EPA will provide technical and financial assistance to states to carry out their increased base workload, meet new requirements, and attempt to offset the reduction of construction grant set-aside funds that have sustained a major portion of their base program activity.

These water quality programs will enable the nation to begin addressing emerging global issues and enhance our ability to protect critical aquatic habitats, including wetlands and marine and estuarine environments. At the same time, these programs will provide further improvements in enforcement programs, promote state capacity through local cooperative initiatives and provide incentives for developing innovative approaches and technology.

Protecting Critical Habitats

Wetlands loss has a major impact on our environment, including adverse effects on species populations and water quality and the severity of flooding. In 1991, EPA will implement recommendations of the Domestic Policy Council's Wetlands Task Force. This is a high priority for the Agency in its efforts to prevent and control pollution that poses risk to critical aquatic habitats. To assist in attaining no net loss of wetlands, EPA will encourage states and Indian tribes to develop wetland protection programs, improve scientific knowledge about wetlands protection, work closely with other agencies and apply stronger enforcement actions to deter and punish polluters who illegally destroy these natural resources.

Another effort to reduce risk to critical aquatic habitats in coastal and marine areas. EPA is increasing its focus on protection and restoration of the nation's near coastal waters and the oceans. In 1991, the Agency will continue support for the Great Lakes, Chesapeake Bay and Gulf of Mexico programs, and the National Estuary Program will support 16 projects to develop and implement management plans. Regional strategies for near coastal waters which assess pollutant loadings and establish necessary pollution control and pollution prevention programs to protect all coastal waters, including the Great Lakes, will be implemented. To help states establish a strong framework to protect and restore their coastal waters, EPA will accelerate efforts to produce both regulatory and non-regulatory tools to address site-specific problems. This will include development of ecologically-based salt and fresh water criteria appropriate for different types of aquatic resources and development of water quality standards for pollutants of concern.

A plan to regulate currently unregulated industries and pollutants will be published by 1990, and EPA will accelerate work to produce technology-based standards for several new industries, selected through risk-ranking procedures. Stormwater discharger application rules for large and medium

municipalities and industrial activities will be defended and implemented.

The Agency will oversee implementation of the Ocean Dumping Ban Act and continue work in support of oil spill restoration programs. EPA will continue involvement with the Corps of Engineers in the designation and management of environmentally safe dredged material disposal sites and work to reduce illegal dumping of dredged material through improved identification procedures and surveillance. The New York Bight Restoration Plan will be completed, and the Agency will continue activities to identify and control plastic pollution in marine environments.

Improving State Capacity

Water quality programs will promote state and local cooperative initiatives and provide incentives for developing innovative and alternative technology. Indian tribes will be encouraged to participate as full and equal decision makers in the protection of water resources on their lands through the provision of technical assistance. Through the National Estuary Program, cooperation and environmental management at the Regional, state and local level will be advanced as the Agency and its Federal partners continue to work with state and local agencies to develop and implement management plans for their estuary projects.

Financial assistance will be provided through cooperative agreements to assist states with the National Pollutant Discharge Elimination System (NPDES) program approvals (and help states obtain this approval); to meet new complex tasks such as issuing new permits for control of combined sewer overflows, sludge and stormwater; to take enforcement action; to upgrade local pretreatment programs; and to set new water quality standards for salt water and wetlands. Further, the Agency is working to establish long-term viable state revolving loan funds that can provide financial assistance for construction of new and upgraded wastewater treatment facilities needed by communities to comply with the Clean Water Act, and for other purposes such as nonpoint source and ground-water protection. Wetlands implementation grants will enable implementation of wetlands programs that leverage state activities.

EPA will assist states in refining their risk management techniques to more accurately reflect the impact of nonpoint source pollution on sensitive aquatic resources and habitats and in moving toward risk-based management of nonpoint source pollution. EPA will also assist the states in implementing their approved nonpoint source management programs by leveraging other Federal agencies' resources and providing states with grant funds to implement approved elements of state nonpoint source management programs. State and local initiatives will be supported through information clearinghouse and educational programs to identify problems (and potential solutions) that communities face from nonpoint source pollution, as well as wetlands pollution and loss.

Specialized technical assistance will be offered for the pretreatment, compliance and enforcement programs, including hands-on aid to publicly owned treatment works (POTWs) that have difficulty developing local limits for specific categories of indirect industrial dischargers, difficulty meeting their toxicity requirements or have no local pretreatment program. POTWs that

discharge to sensitive aquatic resources at greatest risk will also be targeted for this specialized assistance. General assistance efforts will continue to help communities deal with the problems of sewer infiltration/exfiltration, infrastructure and treatment and sludge reuse.

Demonstration projects continue to be extremely useful in leveraging state and local funds, as well as local interest and support for water quality. EPA will fund demonstration projects in the various coastal areas to test solutions and support local management decisions in areas such as nonpoint source pollution controls, low cost technologies for combined sewer overflow and stormwater controls, wetlands restoration techniques, compliance assessment projects and pollution prevention activities. These projects seek to encourage state, local and private investment in the application of these problem solutions in other geographic areas in the future.

Enforcing Water Quality Controls

In 1991, the water quality enforcement effort will be strengthened by tightening controls on dischargers, improving monitoring efforts and coordinating outreach to inform the public and regulated community of the consequences of improper or illegal disposal of wastes or filling of wetlands. This effort will also include taking stronger enforcement actions through the use of administrative orders, penalties and referrals and a greater field presence to detect and address violations. Continued compliance by POTWs will be encouraged by giving priority to resolution of violations at POTWs that have completed construction to meet final effluent limits and by vigorously enforcing pretreatment requirements.

In an effort to support protection of coastal and marine environments, permitting and enforcement activities will be targeted to achieve maximum water quality improvement. In addition, EPA will continue to promote further delegation of our statutorily mandated program for the National Pollutant Discharge Elimination System.

Preventing Pollution

EPA will address the growing global trend towards pollution prevention as an important means of protecting our natural resources. Efforts will include international conferences and special projects related to industrial, municipal and agricultural pollution prevention. The conferences augment continuing efforts to share our industrial technology-based guidelines with other nations through organizations such as the World Bank and the Organization for Economic Cooperation and Development, and to become familiar with pollution prevention techniques being successfully employed by other nations. EPA will also expand support for international activities, generally including the London Dumping Convention, MARPOL, the Cartagena Convention and the Antarctic Treaty, and sponsor and participate in workshops and symposia for the international community. Work will continue in conjunction with the wetlands and coastal protection programs of Canada and Mexico to protect these shared water resources, particularly where efforts coincide with bi-national programs involving the Great Lakes and the Gulf of Mexico.

EPA will continue to exhibit domestic environmental leadership where the Federal role is effectively targeted to address emerging environmental

problems. The Agency will use pollution prevention and control approaches that involve both public and private capacities. In 1991, the Agency will encourage pollution prevention in its municipal pollution control program through technical assistance to states that will help maintain and improve permit compliance. Likewise, water use efficiency will be promoted in order to reduce pressure for expanding waste treatment capacities and the construction of costly new, environmentally-damaging impoundments.

Performing Research and Development

In 1991, EPA's research program will provide increased focus on wetlands, sediment quality and a renewed emphasis on oil spills research.

With losses of over one half of the nation's wetlands and the increased recognition of their ecological and social value emphasized through the "no net loss" goal, research will focus efforts on the science of wetlands creation and restoration. This will include development of scientific guidelines for operational decisions to achieve "no net losses" and to produce and validate design criteria for creation and restoration of the many varying types of wetlands.

Most chemical contaminants and organic wastes in aquatic ecosystems eventually accumulate in the sediments where they adversely affect the water column, accumulate in biological tissues, and enter human food chains. Sediments have become the concern for many state and EPA regulatory activities because of potential impacts, the long periods of time associated with natural assimilation of many in-place pollutants and the high cost of mitigation action. Current EPA areas requiring sediment quality assessments include ocean disposal, NEPA reviews, Superfund, Great Lakes, Chesapeake Bay and estuary projects. Studies will be conducted to compare approaches for developing sediment quality criteria. Comparative toxicological data bases will be used to begin deriving contaminant-specific sediment quality criteria and to recommend minimum test requirements for sediment quality evaluations.

Oil spill technologies have not progressed over the past decade to incorporate scientific advances such as microbial degradation. In 1991, research will include bioremediation research at Valdez, Alaska, designed to evaluate the feasibility of accelerating the rate of biological degradation of residues on Prince William Sound's shore lines. A renewed National Oil Spills Program will focus on thermal, chemical and biological approaches to spill prevention and clean-up, while research on the "physical" clean-up activity will be carried out by the U.S. Coast Guard.

Consulting Services

The Agency uses consulting resources to fulfill the requirements of its authorizing legislation, specifically in providing technical assistance to Regions, states and local governments; collecting data and monitoring background levels as a basis for future regulatory actions; and conducting studies and analyses which support new programs.

	Actual 1989	Current Estimate 1990	Estimate 1991	Increase + Decrease - 1991 vs. 1990
PROGRAM ACTIVITIES				
Incremental Outputs				
EPA Ocean Dumping Permit Reviews	25	25	25	--
Ocean Discharge Criteria Eval.				
Major.....	12	23	23	--
Minor.....	--	0	41	+41
Construction Grants				
Awards.....	402	339	89	-250
Active Construction Grants				
Projects.....	6,095	5,474	4,800	-674
Construction Projects				
Initiating Operations.....	662	438	425	-13
Permits Issued by EPA:				
Municipal				
Major.....	168	265	285	+20
Sludge Requirements.....	168	265	285	+20
Minor.....	316	0	0	--
Non-Municipal				
Major.....	250	285	265	-20
Minor.....	631	0	0	--
General.....	0	5	5	--
Adjudicatory Hearings				
Settled.....	21	100	100	--
Enforcement Actions:				
Inspections.....	2,512	1,900	1,900	--
Admin. Orders (AOs).....	654	567	474	-93
AOs with Penalties.....	220	246	298	+52
Civil Litigation.....	82	59	71	+12
Criminal Litigation.....	21	16	20	+4
Clean Lakes Projects/Studies/				
Assessments.....	98	100	0	-100
Final Water Quality Criteria	1	7	5	-2

WATER QUALITY

	Actual 1989	Current Estimate 1990	Estimate 1991	Increase + Decrease - 1991 vs. 1990
PROGRAM ACTIVITIES				
Cumulative Outputs				
Operational SRF Programs.....	43	50	50	--
Effluent Guidelines.....	51	51	54	+3
Regulations/Support Documents for Sludge Reuse/Disposal...	6	6	6	--
NPDES State Program Approvals	39	40	40	--
National Estuary Projects....	12	16	16	--

Research and Development

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ENVIRONMENTAL PROTECTION AGENCY

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WATER QUALITY
Water Quality Research

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)			
PROGRAM					
Scientific Assessment - Water					
Salaries & Expenses	$223.9	$300.4	$396.4	$455.0	$58.6
Research & Development	$308.2	$311.8	$304.3	$312.5	$8.2
TOTAL	$532.1	$612.2	$700.7	$767.5	$66.8
Monitoring Systems And Quality Assurance - Water					
Salaries & Expenses	$3,018.5	$3,331.4	$3,294.3	$3,395.4	$101.1
Research & Development	$929.0	$990.8	$919.8	$995.9	$76.1
TOTAL	$3,947.5	$4,322.2	$4,214.1	$4,391.3	$177.2
Health Effects - Water					
Salaries & Expenses	$559.4	$604.7	$506.1	$362.4	-$143.7
TOTAL	$559.4	$604.7	$506.1	$362.4	-$143.7
Environmental Engineering And Technology - Water					
Salaries & Expenses	$2,146.3	$2,519.0	$2,402.2	$2,476.4	$74.2
Research & Development	$3,213.8	$3,428.5	$3,335.1	$3,525.6	$190.5
TOTAL	$5,360.1	$5,947.5	$5,737.3	$6,002.0	$264.7
Environmental Processes And Effects - Water					
Salaries & Expenses	$9,142.8	$8,989.5	$8,645.6	$8,937.0	$291.4
Research & Development	$2,689.0	$3,967.4	$4,008.0	$4,445.1	$437.1
TOTAL	$11,831.8	$12,956.9	$12,653.6	$13,382.1	$728.5
Great Lakes Research - Water					
Salaries & Expenses	$482.5	$738.7	$480.0	$480.0	
Research & Development	$1,400.7	$1,474.4	$1,437.6	$1,479.7	$42.1
TOTAL	$1,883.2	$2,213.1	$1,917.6	$1,959.7	$42.1
Oil Spills					
Salaries & Expenses		$478.9			
Research & Development		$984.5	$974.0	$2,000.0	$1,026.0
TOTAL		$1,463.4	$974.0	$2,000.0	$1,026.0
TOTAL:					
Salaries & Expenses	$15,573.4	$16,962.6	$15,724.6	$16,106.2	$381.6
Research & Development	$8,540.7	$11,157.4	$10,978.8	$12,758.8	$1,780.0
Water Quality Research TOTAL	$24,114.1	$28,120.0	$26,703.4	$28,865.0	$2,161.6
PERMANENT WORKYEARS					
Scientific Assessment - Water	3.0	5.0	5.0	5.0	0.0

WATER QUALITY
Water Quality Research

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
Monitoring Systems And Quality Assurance - Water	48.6	54.4	51.4	52.4	1.0
Health Effects - Water	8.3	9.1	8.7	4.7	-4.0
Environmental Engineering And Technology - Water	33.8	37.3	35.3	36.7	1.4
Environmental Processes And Effects - Water	144.5	152.2	144.4	152.2	7.8
Great Lakes Research - Water	5.2	13.0	8.0	8.0	0.0
TOTAL PERMANENT WORKYEARS	243.4	280.0	252.8	259.0	6.2
TOTAL WORKYEARS					
Scientific Assessment - Water	4.5	5.0	5.0	5.0	0.0
Monitoring Systems And Quality Assurance - Water	54.6	54.4	51.4	52.4	1.0
Health Effects - Water	9.1	9.1	8.7	4.7	-4.0
Environmental Engineering And Technology - Water	34.5	37.3	35.3	36.7	1.4
Environmental Processes And Effects - Water	158.1	152.2	144.4	152.2	7.8
Great Lakes Research - Water	7.2	13.0	8.0	8.0	0.0
TOTAL WORKYEARS	268.0	280.0	252.8	259.0	6.2

WATER QUALITY

Water Quality Research

Principal Outputs by Objective

Objective 1: Develop Scientific Data to Support a Water Quality Based Approach to Pollution Control

1991:
- o Revise ambient water quality criteria as necessary (Scientific Assessment)
- o Provide recommendations on appropriate indication of ecological status and trends for development of National and Regional Biocriteria (Monitoring)
- o Develop scientific data on predicting effects of disturbance of water quality functions on wetlands. (Environmental Processes)

1990:
- o Prepare seven (7) new health advisories and respond to comments on 65 ambient water quality criteria addenda revisions (Scientific Assessment)
- o Evaluate monitoring techniques and a generic approach to measurements of toxic compounds (Monitoring)
- o Report on validation of water quality criteria for Selenium (Environmental Processes)
- o Report on water quality functions of wetlands (Environmental Processes)

1989:
- o Finalized 65 water quality addenda for water criteria documents (Scientific Assessment)
- o Finalized 19 health advisories (Scientific Assessment)
- o Evaluated and standardized methodology for quantification of human pathogens (Monitoring)
- o Report on developing sediment quality criteria from existing water quality criteria (Environmental Processes)

Objective 2: Develop Scientific Data to Support Environmentally Sound Ocean Disposal, Estuarine and Great Lakes Programs

1991:
- o Report on the application of wasteload allocation models to multiple discharge sources into estuaries (Environmental Processes)
- o Report on dredge material assessment techniques (Environmental Processes)

1990:
- o Report of methods development, standardization and evaluation of toxicity tests for marine, estuarine and freshwater organisms (Monitoring)
- o Verify models used in 301(h) to define the zone of initial dilution and water quality parameters (Environmental Processes)
- o Report on the characterization of complex mixtures using a biomarker approach (Environmental Processes)

1989: o Develop methods for solid phase bioaccumulation tests (Environmental Processes)

o Report on the effects on marine ecosystems from industrial contaminants in sewage effluent on marine ecosystems (Environmental Processes)

o Report on methods for predicting biological impacts of in-place pollutants in the upper Great Lakes connecting channels (Environmental Processes)

Objective 3: Evaluate of New Technologies, Infrastructure Protection, Combined Sewer Overflow, Sludge Management Alternatives and Toxicity Reduction Methods and Technology

1991: o Develop risk assessment methods for surface disposal to develop criteria. Investigate methods to incorporate those individuals highly exposed into assessments (Scientific Assessment)

o Develop guidance manual for EPA and State use in evaluation/certification of toxicity testing laboratories (Monitoring)

o Report on survival, viability and detection of pathogenic protozoa in sludge (Monitoring)

o Compare fish bioassay with conventional toxicity testing (Health)

o Develop data base on the kinetics of removal of specific toxics by sorption, volatilization, and biodegradation (Engineering)

o Provide assessment of toxicants in storm water runoff (Engineering)

1990: o Finalize risk assessments for surface impoundment methodology (Scientific Assessment)

o Maintain discharge monitoring report as support for the quality assurance program (Monitoring)

o Report on the fate of toxic organics during sludge treatment (Engineering)

o Report on pilot-scale treatability studies on the pesticides manufacturing wastewater (Engineering)

1989: o Drafted pathogen land application methodology (Scientific Assessment)

o Standardized methodology for collection, identification, and enumeration of human pathogenic organisms in sludge and soil to monitor the safety of direct land-application of wastewater and/or sludge (Monitoring)

o Report on effectiveness of available methodology for reducing toxic metals and organic from incineration emissions (Engineering)

WATER QUALITY

Water Quality Research

Budget Request

The Agency requests a total of $28,865,000 supported by 259.0 total workyears for 1991, increases of $2,161,600 and 6.2 total workyears from 1990. Of the request, $16,106,200 will be for the Salaries and Expenses appropriation and $12,758,800 will be for the Research and Development appropriation, an increase of $381,600 and of $1,780,000, respectively.

Program Objectives

The Water Quality research program provides the scientific and technical data to States and the EPA's Office of Water in implementing the Clean Water Act (CWA), the Marine Protection, Research and Sanctuaries Act and the Plastics Pollution Research and Control Act of 1987.

Objective 1: Develop Scientific Data to Support a Water Quality Based Approach to Pollution Control. This research provides the scientific base to help States develop water quality standards, to conduct use-attainability analyses and to provide needed information to implement the Agencies water quality based pollution control program.

Objective 2: Develop Scientific Data to Support Environmentally Sound Ocean Disposal, Estuarine, Great Lakes and Oil Spills Programs. This research provides the scientific base needed by EPA for evaluating impacts of ocean disposal practices, understanding the Great Lakes ecosystems, developing responsive and scientifically valid estuarine and coastal waters programs and establishing national oils spills research efforts focusing on thermal, chemical and biological remediation.

Objective 3: Evaluate New Technologies, Infrastructure Protection, Stormwater and Combined Sewer Overflow, Sludge Management Alternatives and Toxicity Reduction Methods. The wastewater research program provides the technical information, engineering and monitoring assistance needed by EPA, municipalities, and industry for the development and implementation of regulations, guidance for disposal of sludge, and control of pollution from municipal treatment plants to bring plants into compliance with state discharge permits, and to support the National Pollutant Discharge Elimination System (NPDES).

SCIENTIFIC ASSESSMENT

1991 Program Request

The Agency requests a total of $767,500 supported by 5.0 total workyears for this program, of which $455,000 will be for the Salaries and Expenses appropriation and $312,500 will be for the Research and Development appropriation. This represents an increase of $58,600 in the Salaries and Expenses appropriation, an increase of $8,200 in the Research and Development appropriation, and no

change in workyears. The increase in the Salaries and Expenses appropriation reflects a general enhancement of the in-house research program. The increase in the Research and Development appropriation reflects a general enhancement of in-house support for the scientific assessment program.

Develop Scientific Data to Support a Water Quality Based Approach to Pollution Control. This activity, in support of Post-Best Available Technology (BAT) requirements, will continue to provide support to the Agency and the States for updating, modification, and implementation of health criteria for ambient water quality. This activity also develops health advisories in support of effluent regulations for toxics and provides technical support to the Regions and States on risk assessments and the theories behind them.

Evaluate New Technologies, Infrastructure Protection, Stormwater and Combined Sewer Overflow, Sludge Management Alternatives and Toxicity Reduction Methods. The Clean Water Act (CWA) Amendments require the Agency to identify and regulate toxic pollutants in sludge. This program will provide technical support in the development and implementation of these regulations including the development of criteria for the assessment of hazard and risk from exposure to pathogens in sludge and surface impoundments methodology for disposed of municipal sludge.

1990 Program

In 1990, the Agency is allocating a total of $700,700 supported by 5.0 total workyears for this program, of which $396,400 is from the Salaries and Expenses appropriation and $304,300 is from the Research and Development appropriation.

The research efforts as in 1991 are: providing support to the Agency and States on health criteria for water quality; developing health advisories in support of effluent regulations; providing technical support for risk assessments; and theory; to the Regions and States; and developing criteria for assessment of hazard and risk from pathogens in sludge, and methodology for disposal of municipal sludge in surface impoundments.

1989 Accomplishments

In 1989, the Agency obligated a total of $532,100 supported by total of 4.5 workyears for this program, of which $223,900 was from the Salaries and Expenses appropriation and $308,200 was from the Research and Development appropriation.

The program revised 65 ambient water quality documents and completed 19 health advisories, provided technical support to eight regions and numerous States on criteria, completed a draft pathogen land application methodology for use in risk assessments and initiated a methodology for addressing risk from surface sludge impoundments.

MONITORING SYSTEMS AND QUALITY ASSURANCE

1991 Program Request

The Agency requests a total of $4,391,300 supported by 52.4 total workyears for this program, of which $3,395,400 will be for the Salaries and Expenses

appropriation and $995,900 will be for the Research and Development appropriation. This represents an increase of $101,100 in the Salaries and Expenses appropriation, $76,100 in the Research and Development appropriation and 1.0 workyears. The increase in the Salaries and Expenses appropriation reflects a general enhancement of in-house support for the monitoring program while the increase in Research and Development represents support for the Administrator's pollution prevention initiatives.

Develop Scientific Data to Support a Water Quality Based Approach to Pollution Control. The CWA Amendments place emphasis on the development of methods to measure and monitor water quality. In support of this activity, research will develop and standardize methods and provide field tested protocols to assess ambient water quality. In addition, the program will evaluate biological and microbial monitoring techniques and promulgate standardize tests to measure chronic toxicity.

Develop Scientific Data to Support Environmentally Sound Ocean Disposal, Estuarine, Great Lakes and Oil Spills Programs. This research will be continue to support Regional needs for methods standardization, support for the National Estuarine Program and other marine and estuarine monitoring and management programs. Research in marine chemical methods will be conducted consistent with the Agency's highest priority needs. Research will continue on methods to determine the microbial quality in marine systems including the standardization of methods to distinguish human and animal fecal contamination and the development of protocols for monitoring coastal waters, viruses in shellfish, and bacteria associated with fish diseases.

Evaluate New Technologies, Infrastructure Protection, Stormwater and Combined Sewer Overflow, Sludge Management Alternatives and Toxicity Reduction Methods. This research will conduct semi-annual performance evaluation studies to review and revise the Agency's Quality Assurance support. Performance criteria will be developed for NPDES permit analysis, and investigation of analytical method deficiencies, identified by NPDES permitters, will be continued.

1990 Program

In 1990, the Agency is allocating a total of $4,214,100 supported by 51.4 total workyears for this program, of which $3,294,300 is from the Salaries and Expenses appropriation and $919,800 is from the Research and Development appropriation.

This research program is evaluating chemical monitoring methods and protocols to measure site-specific aspects of water quality. This research provides cost-effective monitoring methods for the measurement of chemical and biological parameters required in the National Pollutant Discharge Elimination System (NPDES) Program and in the assessment of fresh water quality and quantification of contaminants in sediments and sludge. Research will also adapt fresh water methods on analysis of marine water quality.

1989 Accomplishments

In 1989, the Agency obligated a total of $3,947,500 supported by 54.6 total workyears for its monitoring and quality assurance program in water quality, of

which $3,018,500 was from the Salaries and Expenses appropriation and $929,000 was from the Research and Development appropriation.

In support of the Clean Water Act and the Marine Protection Research and Sanctuaries Act, standardized methodology for the collection, identification, and enumeration of human pathogenic organisms in sludge and soil were developed to monitor the safety of direct land-application of wastewater or sludge. Inter-laboratory comparisons were performed to assess the performance of chemical and biological methods for the analysis of contaminants regulated under NPDES. A repository of toxic standards and calibration samples was maintained.

HEALTH EFFECTS

1991 Program Request

The Agency requests a total of $362,400 supported by 4.7 total workyears for this program, of which $362,400 will be for the Salaries and Expenses appropriation and no dollars for the Research and Development appropriation. This represents an decrease of $143,700 from the Salaries and Expenses appropriation and a decrease of 4.0 total workyears. The decrease in the Salaries and Expenses appropriation reflects the reduction in workyears off-set by a general enhancement of in-house support for health effects program. The decrease in workyears reflect a general realignment of agency priorities.

Evaluate New Technologies, Infrastructure Protection, Stormwater and Combined Sewer Overflow, Sludge Management Alternatives and Toxicity Reduction Methods. Health evaluations on specific chemicals and chemical mixtures identified in municipal sludge and waste water effluents will be initiated using in-vitro bioassays to support the development and defense of sludge disposal criteria.

1990 Program

In 1990, the Agency is allocating a total of $506,100 supported by 8.7 total workyears for this program, of which $506,100 is from the Salaries and Expenses appropriation and no dollars from the Research and Development appropriation.

This in-house research program is examining the relationship between in-vitro toxicity testing used to estimate health effects and ecosystem tumor tests. This research will continue to strengthen the data base necessary to support risk evaluation.

1989 Accomplishments

In 1989, the Agency obligated a total of $559,400 supported by 9.1 total workyears for this program, of which $559,400 was from the Salaries and Expenses appropriation and no dollars from the Research and Development appropriation.

Research activities were directed toward assessing and modifying bioassay methods used to assess the toxicity of municipal sludge and wastewater effluent. These assays were evaluated for their ability to characterize the toxicity for treatability and to identify toxicants causing the toxicity.

ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

1991 Program Request

The Agency requests a total of $6,002,000 supported by 36.7 total workyears for this program, of which $2,476,400 will be for the Salaries and Expenses appropriation and $3,525,600 will be for the Research and Development appropriation. This represents an increase of $74,200 in the Salaries and Expenses appropriation, an increase in of $190,500 in the Research and Development appropriation, and an increase of 1.4 workyears. The increase in the Salaries and Expenses appropriation reflects a general enhancement of in-house support for the engineering research program. The increase in the Research and Development appropriation reflect support for the Administrator's pollution prevention initiatives. The increase in workyears reflects additional support for small community needs.

Evaluate New Wastewater Technologies, Infrastructure Protection, Stormwater and Combined Sewer Overflow, Sludge Management Alternatives and Toxicity Reduction Methods. New conveyance and treatment technologies with promise of improved economies or effectiveness will be evaluated and the results provided to States, municipalities, and design professionals. Technical investigations will be conducted on the infrastructure of Publicly Owned Treatment Works (POTWs) and the results will be provided to the municipalities to help realize full value of these investments and properly operate and maintain the facilities. Technical assistance will be provided and research conducted to support the Agency's storm and combined sewer overflow program mandated by the Clean Water Act. Research and technical assistance will be continued to support sludge regulation implementation and updating. Toxics treatability and toxicity reduction evaluations for the pulp and paper industry will be initiated.

1990 Program

In 1990, the Agency is allocating a total of $5,737,300 supported by 35.3 total workyears for this program, of which $2,402,200 is from the Salaries and Expenses appropriation and $3,335,100 is from the Research and Development appropriation.

New wastewater technologies are being evaluated to determine and promote more cost effective treatment processes. Technical support is being provided to the Office of Water for development of sludge regulations on permit limitations for municipal and industrial wastewater. Toxics treatability is being assessed. Toxicity reduction valuation procedures and removal capabilities are being developed for various treatment processes. Technical support is being provided to municipalities to upgrade existing plant capabilities to achieve compliance while minimizing costs. Research is being initiated to evaluate the cost effectiveness and efficiency of different treatment as a options. The development of a pesticide treatability data base is being initiated.

1989 Accomplishments

In 1989, the Agency obligated a total of $5,360,100 supported by 34.5 total workyears for this program, of which $2,146,300 was from the Salaries and Expenses appropriation and $3,213,800 was from the Research and Development appropriation.

Major accomplishments included technology evaluations on selected high potential Innovative/Alternative candidates, technical support and engineering assistance provided to the EPA regulatory offices, Regions, States and municipalities for the development and implementation of sludge regulation and permit requirements rules.

ENVIRONMENTAL PROCESSES AND EFFECTS

1991 Program Request

The Agency requests a total of $13,382,100 supported by 152.2 total workyears for this program, of which $8,937,000 will be for the Salaries and Expenses appropriation and $4,445,100 will be for the Research and Development appropriation. This represents an increase of $291,400 in the Salaries and Expenses appropriation, and an increase of $437,100 in the Research and Development appropriation. Total workyears will increase by 7.8 workyears. The increase in the Salaries and Expenses appropriation reflects a general enhancement of in-house support for the processes and effects research program, while the increases in the Research and Development appropriation and total workyears reflects additional research on emerging issues such as sediment quality and implementation of the Agency's "No Net Loss" protection policy for wetlands.

Develop Scientific Data to Support a Water Quality Based Approach to Pollution Control. As a follow-up to the Post-Best Available Technology (BAT) requirements of the CWA Amendments, this research will develop methods to determine both water quality criteria and sediment quality criteria for use in the water quality based approach to permitting. This approach integrates pollutant-specific control methods with toxicity testing procedures and BAT limits for permitting. Research will also strengthen the scientific and technical data base and methodologies to assess water quality functions of wetlands, to assess individual and cumulative impacts of wetland conversions, and evaluate means of mitigating wetland impacts. Increased emphasis will be given to research on sediment quality. The data from these studies will assist the States in developing individual strategies for controlling toxic pollutants and implementing "No Net Loss" protection policies for wetlands.

Develop Scientific Data to Support Environmentally Sound Ocean Disposal, Estuarine, Great Lakes, and Oil Spill Programs. This research will develop procedures to assess impacts on oceans from disposal of wastes in coastal waters. These procedures will determine the relative safety of ocean disposal and compare alternative disposal strategies. Research will also be conducted to support the Agency's strategy to reduce pollution in near coastal waters. The research program will focus on recovery of coastal ecosystems, development of biomarker assessment methods, coastal eutrophication problems and development of wasteload allocation models for estuarine and coastal waters.

Evaluate New Technologies, Infrastructure Protection, Stormwater and Combined Sewer Overflow, Sludge Management Alternatives and Toxicity Reduction Methods. Research will continue to maintain and update the existing library of gas chromatograph/ mass spectroscopy tapes and develop new analytical data bases of toxic pollutants found in industrial wastewater. The data bases will provide

the information on wastewater treatment technology needed to support the NPDES program. Research on ecological fate and effects issues associated with wetlands constructed for wastewater treatment will continue.

1990 Program

In 1990, the Agency is allocating a total of $12,653,600 supported by 144.4 total workyears for this program, of which $8,645,600 is from the Salaries and Expenses appropriation and $4,008,000 is from the Research and Development appropriation.

Research is being conducted to develop methods to integrate whole effluent testing procedures with chemical specific control technology. Research continues on methods to assess: water quality functions and ecological impacts associated with wetlands; the cumulative loss of wetlands; and mitigation of impacts on wetlands. Research on methods to better assess the impacts of ocean disposal activities is being conducted. These procedures will be used in risk assessments. Estuarine and near coastal waters research is focused on questions of ecosystem recovery, eutrophication, wasteload allocation and biomarkers as assessment techniques in coastal waters.

1989 Accomplishments

In 1989, the Agency obligated a total of $11,831,800 supported by 158.1 total workyears for this program, of which $9,142,800 was from the Salaries and Expenses appropriation and $2,689,000 was from the Research and Development appropriation.

Major accomplishments include the development of aquatic life water quality criteria documents, water quality advisories, a report on the ecological effects of nutrients verses contaminants from Publicly-Owned Treatment Works, a report on the ecological effects of industrial contaminants in sewage effluent on the marine ecosystem, and a report on equilibrium partitioning in sediments useful in the development of sediment quality criteria.

GREAT LAKES

1991 Program Request

The Agency requests a total of $1,959,700 supported by 8.0 total workyears for this program, of which $480,000 will be for the Salaries and Expenses appropriation and $1,479,700 will be for the Research and Development appropriation. This represents no change in the Salaries and Expenses appropriation, an increase of $42,100 in the Research and Development appropriation and, no change in total workyears.

Develop Scientific Data to Support Environmentally Sound Ocean Disposal, Estuarine, Great Lakes and Oil Spills Programs. Research will develop and test methods to determine the sources, movement and effects of toxic substances in the Great Lakes. Emphasis will be given to research on in-place pollutants and mass balance studies. This program will also provide the Great Lakes National

Program Office, EPA Regions II, III and V the Great Lakes states, and the International Joint Commission (under the US/Canada Water Quality Agreement) with technical support and research data.

1990 Program

In 1990, the Agency is allocating a total of $1,917,600 supported by 8.0 total workyears for this program, of which $480,000 is from the Salaries and Expenses appropriation and $1,437,600 is from the Research and Development appropriation.

The research is focusing on the impact and fate of toxic materials in areas of concern identified by the Great Lakes National Program and the International Joint Commission. Emphasis is on in-place pollutants, chemical mass balance research, and evaluation of the effectiveness of confined disposal facilities for dredged material.

1989 Accomplishments

In 1989, the Agency obligated a total of $1,883,200 supported by 7.2 total workyears for this program, of which $482,500 was from the Salaries and Expenses appropriation and $1,400,700 was from the Research and Development appropriation.

Among the many accomplishments of the Great Lakes Research program were: a report on methods for predicting biological impacts of in place pollutants in the upper Great Lakes connecting channels, a report on methods for predicting probability distribution of exposure for toxic substances in fresh water ecosystems, and technical assistance provided to the Great Lakes National Program Office, the Regions, International Joint Commission, and the cooperating Universities.

OIL SPILLS

1991 Program Request

The Agency requests a total of $2,000,000 supported by no workyears for this program, of which no resources will be for the Salaries and Expenses appropriation and $2,000,000 will be for the Research and Development appropriation. This represents no change in the Salaries and Expenses appropriation, an increase of $1,026,000 in the Research and Development appropriation, and no change in the total workyears.

Develop Scientific Data to Support Environmentally Sound Ocean Disposal, Estuarine, Great Lakes and Oil Spills Programs. Oil spills technologies have not progressed over the past decade to incorporate scientific advances, such as microbial degradation. Research will continue to support bioremediation advances being studied at Prince William Sound, and will initiate a renewed National Oil Spills Program in which EPA will focus on thermal, chemical, and biological approaches to prevent and clean-up oil spills. Research on the "physical" clean-up of oil spills will be the responsibility of the U.S. Coast Guard.

1990 Program

- In 1990, the Agency is allocating a total of $974,0000 for this program, of which none is from the Salaries and Expenses appropriation and $974,000 is from the Research and Development appropriation.

In support of the clean-up of Prince William Sound, Agency research is continuing to evaluate the effectiveness of bioremediation as a clean-up technology and to determine if any toxic effects are occurring. The Agency is negotiating to continue the existing Federal Technology Transfer Act (FTTA) Cooperative Agreement with Exxon to help support this activity.

1989 Accomplishments

In 1989, the Office of Research and Development obligated a total of $1,646,300 for the Prince William Sound emergency. In addition, $1,601,000 provided by Exxon through a FTTA Cooperative Agreement, were obligated.

In response to the oil spill in Alaska's Prince William Sound the Agency conducted on-site pilot research on bioremediation as an approach to clean-up of oil spills. Early results prompted Exxon to use bioremediation technology on many tidal beaches as one of its approaches to remediation of the oil spills.

Abatement and Control

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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WATER QUALITY
Water Quality And Grants Program Management

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
PROGRAM						
Water Quality Management						
Salaries & Expenses		$5,089.9	$5,146.9	$5,422.3	$6,730.0	$1,307.7
Abatement Control and Compliance		$1,417.6	$1,735.2	$2,174.8	$2,322.0	$147.2
	TOTAL	$6,507.5	$6,882.1	$7,597.1	$9,052.0	$1,454.9
Great Lakes Program						
Salaries & Expenses		$2,259.7	$2,901.9	$2,961.6	$3,214.3	$252.7
Abatement Control and Compliance		$7,596.1	$10,260.2	$10,129.3	$9,023.7	-$1,105.6
	TOTAL	$9,855.8	$13,162.1	$13,090.9	$12,238.0	-$852.9
Chesapeake Bay Program						
Salaries & Expenses		$1,509.5	$1,245.3	$1,241.2	$1,486.4	$245.2
Abatement Control and Compliance		$10,956.3	$11,585.2	$11,421.4	$10,698.8	-$722.6
	TOTAL	$12,465.8	$12,830.5	$12,662.6	$12,185.2	-$477.4
TOTAL:						
Salaries & Expenses		$8,859.1	$9,294.1	$9,625.1	$11,430.7	$1,805.6
Abatement Control and Compliance		$19,970.0	$23,580.6	$23,725.5	$22,044.5	-$1,681.0
Water Quality And Grants Program Management	TOTAL	$28,829.1	$32,874.7	$33,350.6	$33,475.2	$124.6
PERMANENT WORKYEARS						
Water Quality Management		93.1	105.7	104.8	122.7	17.9
Great Lakes Program		27.5	44.4	30.8	45.4	14.6
Chesapeake Bay Program		16.5	10.0	9.5	12.0	2.5
TOTAL PERMANENT WORKYEARS		137.1	160.1	145.1	180.1	35.0
TOTAL WORKYEARS						
Water Quality Management		98.6	105.7	108.7	122.7	14.0
Great Lakes Program		30.8	45.4	35.4	45.4	10.0
Chesapeake Bay Program		17.1	10.0	10.0	12.0	2.0
TOTAL WORKYEARS		146.5	161.1	154.1	180.1	26.0

WATER QUALITY

Water Quality and Grants Program Management

Budget Request

The Agency requests a total of $33,475,200 supported by 180.1 total workyears for 1991, an increase of $124,600 and an increase of 26.0 total workyears from 1990. Of the request, $11,430,700 will be for the Salaries and Expenses appropriation and $22,044,500 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $1,805,600 in the Salaries and Expenses appropriation and a decrease of $1,681,000 in the Abatement, Control and Compliance appropriation.

WATER QUALITY MANAGEMENT

1991 Program Request

The Agency requests a total of $9,052,000 supported by 122.7 total workyears for this program, of which $6,730,000 will be for the Salaries and Expenses appropriation and $2,322,000 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $1,307,700 in Salaries and Expenses, an increase of 14.0 workyears, and an increase of $147,200 in Abatement, Control and Compliance. The increases will support expanded efforts in the nonpoint source (NPS) pollution prevention and control program.

By 1991, EPA will have approved, disapproved or partially approved all state Section 319 NPS assessments and management programs. EPA will develop assessments where states fail to do so or where state assessments are disapproved, and states will implement approved elements of their NPS management programs. To support state implementation efforts, EPA will award grants to states to implement approved NPS management programs. EPA will also prepare technical NPS guidance documents, develop protocols to evaluate the effectiveness of Best Management Practices (BMPs) and document environmental results, and provide limited consultation to the states. The Agency will also leverage other Federal agencies' authorities and resources to help states implement NPS pollution prevention and control measures, and continue limited outreach to educate the public and build grass-roots support for NPS initiatives and innovative financing solutions.

Headquarters will help states use risk-based approaches to address impacts of NPS pollution on sensitive aquatic resources and habitat by refining risk assessment techniques to accurately account for NPS impacts, training Regions and states on use of risk assessment and management techniques and developing analytic methodologies and models for NPS pollution. Headquarters will also support Regional/state implementation of the agricultural elements of approved state NPS management programs by (1) developing improved techniques to evaluate state BMPs; (2) developing technical guidance on grazing BMPs; (3) sponsoring training on effectively coordinating the NPS program with other initiatives to prevent contamination of surface and ground water by agricultural chemicals; and (4) conducting a multi-agency technology transfer campaign on management of agricultural chemicals and nutrients by land owners. Headquarters and Regions

will continue to coordinate Agency NPS activities with USDA's water quality initiative, taking advantage of USDA's extensive delivery system. Headquarters will assist Regions V, VII and X as they implement a special agricultural pollution prevention initiative (agricultural chemical management).

The Regions will provide direction and technical support to help states implement geographically-targeted agricultural NPS management programs, emphasizing prevention and control activities in specific watersheds at highest risk. Regions will also provide technical support to help states adopt risk-based management approaches to NPS pollution control, with special emphasis on estuaries, near coastal waters and wetlands at highest risk. Regions will assist states in: (1) using analytic methodologies to calculate load allocations; (2) designing and implementing prevention and control programs for urban runoff not regulated by stormwater permits; and (3) using the antidegradation provisions of state water quality standards to prevent NPS pollution in high quality waters.

Headquarters will oversee Regional efforts to manage funds to states through new cooperative agreements under Section 104(b)(3) and allocate Section 106 grant funds to states and qualified Indian tribes, with emphasis on building strong Indian tribal institutions fully capable of managing EPA grants.

1990 Program

In 1990, the Agency is allocating a total of $7,597,100 supported by 108.7 total workyears for this program, of which $5,422,300 is from the Salaries and Expenses appropriation and $2,174,800 is from the Abatement, Control and Compliance appropriation.

EPA approved 51 state Section 319 NPS assessment reports and is reviewing and approving all or portions of state management programs. EPA is working with states to upgrade and implement these programs by providing technical support, guidance and oversight. EPA is implementing its five year action plan to guide national nonpoint source activities to help states and local governments overcome barriers to successful implementation of NPS prevention and control measures. A final EPA report to Congress is being prepared summarizing the states' progress in implementing Section 319 requirements and recommending needed programmatic changes. Headquarters is also providing guidance on basic grants management functions for grants to states under Section 106 and Section 205, and evaluating the performance of selected Indian tribes' water quality programs.

The Regions continue to negotiate state work programs and manage grant funds under Sections 106 and 205(j)(5) to 203 state/interstate/regional organizations and qualified Indian tribes, ensuring that funds are used effectively and targeted carefully to meet critical water quality needs. To accomplish this, the Regions are issuing guidance and funding targets for specific priority activities, providing technical and management assistance, tracking and evaluating grantee performance and assuring that states meet their level-of-effort requirements.

The Agency is providing management oversight to 150 existing Clean Lake projects. EPA is also reviewing and approving state lake water quality assessments, preparing reports to Congress on the status of lake water quality and progress achieved under the Section 314(d) Demonstration Program, providing

a technical supplement to the Lake and Reservoir Restoration guidance manual and continuing efforts to validate various restoration methodologies.

1989 Accomplishments

In 1989, the Agency obligated a total of $6,507,500 supported by 98.6 total workyears for this program, of which $5,089,900 was from the Salaries and Expenses appropriation and $1,417,600 was from the Abatement, Control and Compliance appropriation.

Headquarters and the Regions initiated review, revision and approval of state NPS assessment reports and management programs and prepared an annual report to Congress summarizing the states' progress. Approximately 10 workshops and 10 consultations were provided to states on proven technologies for the design and implementation of watershed-level control systems. Regions negotiated and managed work programs for Section 205(j)(5) grants to 57 states and territories to complete development and begin implementation of NPS management programs. Program audits were conducted by Headquarters to assure national consistency.

Headquarters allocated Section 106 grant funds to Regions, states and qualified Indian tribes, provided guidance on basic program issues, conducted evaluations of Regional programs and evaluated the performance of selected Indian tribes. Regions continued to negotiate, award and manage Sections 106 and 205(j)(1) grant funds to 203 states, interstate organizations, regional organizations and qualified Indian tribes.

GREAT LAKES PROGRAM

1991 Program Request

The Agency requests a total of $12,238,000 supported by 45.4 total workyears for this program, of which $3,214,300 will be for the Salaries and Expenses appropriation and $9,023,700 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $252,700 in the Salaries and Expenses appropriation, a decrease of $1,105,600 in the Abatement, Control and Compliance appropriation, and an increase of 10.0 in total workyears. The increase in Salaries and Expenses supports the increase in total workyears. The decrease in Abatement, Control and Compliance reflects completion of major components of the Green Bay Mass Balance study and of the refitting of the research vessel, MARSEA 14. The increase in workyears reflects increased support for the state/local development and implementation of Remedial Action Plans (RAP) and the development of the Lakewide Management Plans (LAMP), as required in the Great Lakes Water Quality Agreement (GLWQA) with Canada.

Under the Clean Water Act (CWA) and GLWQA, the Great Lakes National Program Office (GLNPO) will continue to provide technical and management support for pollution prevention and control activities to protect critical habitats, surface water and ground-water. GLNPO and Regional technical support will be expanded for state/local development and implementation of RAPs for 30 United States Areas of Concern (AOC) identified by the International Joint Commission (IJC). In 1991, 27 of the 30 plans will be completed. In coordination with GLNPO, Regions II and V will continue to develop the LAMPs for Lake Ontario and Lake Michigan

to address the problems of critical toxics, and will begin, with Region III, the work on the LAMP for Lake Erie.

GLNPO's Assessment and Remediation of Contaminated Sediments (ARCS) program will continue with pilot field demonstrations of promising technologies to abate contaminated sediment problems at several locations. Among the possible sites are Saginaw Bay, Sheboygan Harbor, Grand Calumet River, Ashtabula River, and Buffalo River. The ARCS projects, which will be allocated 40 percent of the program's funding, will support RAP implementation by determining feasible technologies for abatement of the contaminated sediment problems identified in most of the AOCs. The Agency's replacement research vessel, MARSEA 14, will be operational, and outfitting of the ship with laboratory modules for toxics monitoring needs will be completed. The Green Bay Mass Balance study will be completed, including a joint study with the National Oceanic and Atmospheric Administration (NOAA) on the Green Bay hydrology and sediment flux.

GLNPO will continue to coordinate with and provide oversight for Regions II, III, and V on water quality standards and on technical matters in the development and review of permits and permit compliance related to GLWQA requirements. Great Lakes monitoring and source assessment activities will continue through annual programs for conventional and toxic pollutants, for collection, analyses, and reporting on both open lake migratory and near shore non-migratory fish, and for collection of precipitation samples through the Great Lakes Atmospheric Deposition (GLAD) network for the analyses of metals, nutrients, and organic toxics. Surveillance activities will include continued open lake limnology and biological sampling, and continued air monitoring through the GLAD network. These analyses will be used to determine metals and nutrient loadings to the Great Lakes as a basis for the design and operation of pollution abatement programs.

GLNPO will continue development of the program's annual progress reports to Congress on implementation of the United States commitments under GLWQA. The program office will continue to convene and participate in bilateral United States/Canadian committees and task forces as the United States lead on GLWQA implementation. The program will provide technical support to EPA Headquarters and to the Department of State on official Canadian inquiries concerning the Great Lakes policies and programs of the United States government.

1990 Program

The Agency is allocating a total of $13,090,900 supported by 35.4 total workyears for this program, of which $2,961,600 is from the Salaries and Expenses appropriation and $10,129,300 is from the Abatement, Control and Compliance appropriation.

GLNPO, in cooperation with Regions II and V, provides technical support to state/local agencies to develop and begin implementation of RAPs, and 25 of the 30 plans are expected to be complete. The initial LAMP development work by Regions II and V, with the participation of GLNPO, begins with Lake Ontario and Lake Michigan. The ARCS program, which is allocated 40 percent of the program's funding, completes laboratory scale demonstrations of promising technologies and begins the preliminary work for the pilot scale demonstrations in the field. The technical protocols, site selection criteria, and procedures for the demonstrations are also complete. The refitting of the MARSEA 14 to Coast Guard

specifications is being completed, outfitting the ship with laboratory modules for toxics monitoring begins and a Bay City home porting site is under evaluation. The Green Bay Mass Balance study continues developing predictive models for identification, transport, and fate of toxic substances. GLNPO begins a joint study with NOAA on the Green Bay hydrology and sediment flux.

The program office provides continuing technical support for and tracking of various state-level nonpoint source control programs to implement the United States phosphorus reduction plan. Regions II and V begin implementing the recommendations of the 1988 Nonpoint Source Reduction Plan Implementation Report called for under Annex 3 of the GLWQA, using CWA Section 319 authority. Great Lakes monitoring and source assessment activities continue through annual programs for conventional and toxic pollutants. Surveillance activities include continued open lake limnology and biological sampling, and operation of air monitoring stations in the GLAD network. GLNPO continues work on the development of the program's annual progress reports to Congress. Bi-national coordination and staff level working contacts on GLWQA implementation increases. GLNPO is to complete the negotiation of agreements, where needed, with appropriate Federal, state, local, and tribal agencies, as specified in the CWA.

1989 Accomplishments

In 1989, the Agency obligated a total of $9,855,800 supported by 30.8 total workyears for this program, of which $2,259,700 was from the Salaries and Expenses appropriation and $7,596,100 was from the Abatement, Control and Compliance appropriation.

GLNPO provided direction and technical assistance to states in the development of RAPs, and RAPs for 15 of the 30 United States AOCs were completed. The preliminary field work and biological and chemical studies were completed for the ARCS program, which was allocated 40 percent of the Great Lakes program funding. Also, laboratory scale demonstrations of promising remedial technologies were begun. The specifications and contract bid proposal were developed for the overhaul and refitting of the MARSEA 14, which was acquired in December 1988.

GLNPO continued tracking nonpoint source pollution control practices and providing technical assistance and monitoring for the Great Lakes states' phosphorus reduction efforts, including elements of the 1986 U.S. Plan for Phosphorus Load Reduction to Lake Erie, Lake Ontario, and Saginaw Bay. Tributary monitoring for toxic pollutants was continued. The expansion of the GLAD network increased its analytical and research capabilities. Work continued on the Green Bay Mass Balance study and in the area of toxic source assessment.

GLNPO continued the negotiation of agreements with appropriate Federal, state, local, and tribal agencies, as specified in the CWA. Work continued on the preparation of the program's annual progress reports to Congress. Specific cooperative studies were conducted with NOAA to develop a research inventory. GLNPO published the results of the bi-national multi-agency Upper Great Lakes Connecting Channel study for use in developing the international RAPs for the St. Marys, St. Clair, and Detroit Rivers.

CHESAPEAKE BAY PROGRAM

1991 Program Request

The Agency requests a total of $12,185,200 supported by 12.0 total workyears for this program, of which $1,486,400 will be for the Salaries and Expenses appropriation and $10,698,800 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $245,200 in Salaries and Expenses, a decrease of $722,600 in Abatement, Control and Compliance, and an increase of 2.0 in total workyears. The increases in Salaries and Expenses and total workyears reflect increased activities related to toxics impacts on living resources and toxics monitoring. The decrease in Abatement, Control and Compliance reflects completion of nonpoint source control project grants and of studies required for the clean-up program for Rock Creek, a small tributary discharging to Baltimore Harbor, and for the Patuxent River Demonstration Site in Maryland.

Under the Clean Water Act (CWA) and the Chesapeake Bay Agreement (CBA), the Chesapeake Bay Liaison Office (CBLO) will continue to provide technical and management support for pollution prevention and control activities to protect critical habitats, surface water, and ground water. The Agency will continue to meet its expanded responsibilities under the CBA in concert with the three States of Pennsylvania, Maryland, and Virginia, the District of Columbia and the Chesapeake Bay Commission. The CBLO will continue management of state nonpoint source control and monitoring grants, and will provide overall program coordination, computer services/data management, administrative and public information support. Also, technical advisory services to the program's Executive Council, advisory committees, and subgroups established to carry out the terms of the CBA will be continued.

A review of the Bay monitoring program led by the CBLO will be completed. Program participants will assist in defining nutrient loads and contribute to reevaluation of the nutrients reduction goal and reassessment of costs. The goal of the basinwide nutrient reduction strategy is to achieve at least a 40 percent reduction from 1985 levels of nutrients entering the Bay's main stem by the year 2000. The CBLO and the U.S. Army Corps of Engineers will complete the time varying model for use in the reevaluation of the 40 percent nutrient reduction goal. Toxic studies, expanded monitoring data, pesticide management demonstrations and use surveys, analytical capabilities surveys, toxic loading inventories, and the continued implementation of the Basinwide Toxics Reduction Strategy will be used to refine and redirect the Strategy and improve regulatory efforts. The data from a CBLO pesticide survey will be analyzed and used to support improvements in the states' pesticide management programs. The CBLO will also develop a pesticide index and registry as a pollution prevention initiative to assist in reducing the risk of nonpoint source pesticide pollution.

The program will work with the Agency's Narragansett laboratory to expand toxics data to include atmospheric deposition data. Activities to ensure public involvement in protecting and restoring living resources and water quality will be continued. Reports, fact sheets, and media releases will also continue to be produced. The CBLO will also continue to be a participant and contributor to the Agency's ongoing Near Coastal Waters technology transfer activities.

1990 Program

The Agency is allocating a total of $12,662,600 supported by 10.0 total workyears for this program, of which $1,241,200 is from the Salaries and Expenses appropriation and $11,421,400 is from the Abatement, Control and Compliance appropriation.

One of the ongoing priorities of the program is the implementation of nonpoint source (NPS) nutrient pollution control projects for targeted drainage subbasins through annual state implementation grants. Investigations continue on nonpoint sources and impacts of toxics, with the concentration on sediments, the surface microlayer, and pesticides from land drainage. The work of the CBLO on toxics and related problems includes: development of the Toxics of Concern List; toxicity assessments of living resource habitats, particularly shallow nearshore habitats in cooperation with the Fish and Wildlife Service; estuarine sediment bioassay development and validation; and research on matters relating to ecological risk assessment, in cooperation with National Oceanic and Atmospheric Administration. CBLO is also undertaking a pesticides use survey based on the findings of the office's 1988 surface microlayer study, which showed that pesticides are impacting the microlayer.

The program redirection continues in order to meet the CBA commitments of the Bay states to reduce the level of nutrients in the Bay by 40 percent by the year 2000 and to meet the 1987 CWA requirements to look into problems of toxicity through the program's ongoing monitoring activities. Under the expanded CWA responsibilities and CBA commitments, the CBLO continues to provide technical and management leadership in nutrient reduction and the emerging problems of persistent toxics in the Bay basin. The CBLO also continues efforts to control nonpoint toxic sources, with the emphasis on continued implementation of the toxics strategy approved in December 1988. Efforts to improve compliance of Bay dischargers under the National Pollutant Discharge Elimination System continue through implementation of the Bay Compliance Initiative. The CBLO has initiated and in 1990 will complete two required Maryland studies -- the Rock Creek clean-up program study and the Patuxent River Demonstration Site study for pollution management and control.

1989 Accomplishments

In 1989, the Agency obligated a total of $12,465,800 supported by 17.1 total workyears for this program, of which $1,509,500 was from the Salaries and Expenses appropriation and $10,966,300 was from the Abatement, Control and Compliance appropriation.

The CBLO continued to work with the Bay states to implement the elements of the CBA. This included completion of the development policies and guidelines, a wetlands policy, a fish passage strategy, fishery management plans, and a plan to reduce and control toxic materials entering the Bay from point and nonpoint sources, and a plan to achieve point and nonpoint source reduction from Federal installations that parallel the states' load reduction.

The program support for monitoring the mainstem of the Bay continued in concert with the states' focus on monitoring the major tributaries. Continued support was provided for public outreach activities and for maintaining and improving the Chesapeake Bay data system.

WATER QUALITY
Effluent Standards & Guidelines

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Effluent Standards & Guidelines					
Salaries & Expenses	$3,228.6	$3,513.0	$3,126.7	$3,533.0	$406.3
Abatement Control and Compliance	$6,118.2	$6,042.6	$5,965.6	$9,463.6	$3,498.0
TOTAL	$9,346.8	$9,555.6	$9,092.3	$12,996.6	$3,904.3
TOTAL:					
Salaries & Expenses	$3,228.6	$3,513.0	$3,126.7	$3,533.0	$406.3
Abatement Control and Compliance	$6,118.2	$6,042.6	$5,965.6	$9,463.6	$3,498.0
Effluent Standards & Guidelines TOTAL	$9,346.8	$9,555.6	$9,092.3	$12,996.6	$3,904.3
PERMANENT WORKYEARS					
Effluent Standards & Guidelines	46.2	45.7	45.7	48.7	3.0
TOTAL PERMANENT WORKYEARS	46.2	45.7	45.7	48.7	3.0
TOTAL WORKYEARS					
Effluent Standards & Guidelines	48.9	45.7	45.7	48.7	3.0
TOTAL WORKYEARS	48.9	45.7	45.7	48.7	3.0

WATER QUALITY

Effluent Standards and Guidelines

Budget Request

The Agency requests a total of $12,996,600 supported by 48.7 total workyears for 1991, an increase of $3,904,300 and an increase of 3.0 total workyears from 1990. Of the request, $3,533,000 will be for the Salaries and Expenses appropriation and $9,463,600 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $406,300 in the Salaries and Expenses appropriation and an increase of $3,498,000 in the Abatement, Control and Compliance appropriation.

EFFLUENT STANDARDS AND GUIDELINES

1991 Program Request

In 1991, the Agency requests a total of $12,996,600 supported by 48.7 total workyears for this program, of which $3,533,000 will be for the Salaries and Expenses appropriation and $9,463,600 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $406,300 in Salaries and Expenses, an increase of 3.0 workyears and an increase of $3,498,000 in Abatement, Control and Compliance. The increases reflect a growing workload associated with meeting the Section 304(m) requirement to promulgate effluent guidelines for currently unregulated industries and pollutants.

The effluent standards and guidelines program will continue to develop controls or guidance for the unregulated industries and pollutants as identified in the Domestic Sewage Study (DSS). The Agency will propose regulations for the offshore oil and gas industry and the pesticides manufacturing industry, publish four draft technical guidance studies (timber, petroleum refining, waste oil recovery and textiles), initiate development of a draft technical guidance study for the steam electric industry and pursue development of regulations for three other unregulated industries cited by the DSS as contributing considerable quantities of hazardous and toxic wastes to publicly owned treatment works (POTWs) and surface waters (hazardous waste treaters (Phase II), industrial laundries and transportation cleaning).

As identified in the Section 304(m) notice, the ~~Agency will~~ will continue to develop regulations for the following industries; hazardous waste treatment, machinery manufacturing and rebuilding, pesticides formulating/packaging, pharmaceuticals, coastal oil and gas, and pulp and paper. Work will continue on a proposed regulation for the remanded portion of the organic chemicals, plastics and synthetic fibers regulation (proposal FY 92). In addition, three technical guidance documents for the timber, textiles, and petroleum industries will be published. The remaining eight industrial categories, identified in the FY 90 Section 304(m) notice, will continue to be evaluated.

Analytical methods development will continue with the Sample Control Center providing analytical services (3,000 samples) required for regulatory development, enforcement activities, hazardous waste programs and Superfund activities. The Agency will also conduct an analytical methods conference; four

comprehensive technical workshops for regional and state permit writers and POTW operators; and an international conference, to be co-sponsored by EPA and industry, on the application of pollution prevention practices in industrial wastewater treatment in the pesticides industry. As part of the Agency's overall emphasis on pollution prevention, the program will, in the process of effluent guidelines development, fully and effectively address pollution prevention, water conservation and cross-media impacts. Technology transfer will be expanded to promote rapid implementation of pollution prevention concepts and techniques.

1990 Program

In 1990, the Agency is allocating a total of $9,092,300 supported by 45.7 total workyears for this program, of which $3,126,700 is from the Salaries and Expenses appropriation and $5,965,600 is from the Abatement, Control and Compliance appropriation.

In FY 90, the Agency published the Section 304(m) notice that committed the Agency to promulgate new or revise existing regulations for nine major industrial categories. Schedules for the nine rulemaking actions were included in the notice. In addition, the notice identified eleven industrial categories the Agency would continue to study. The Agency published guidance documents or data summaries for thirteen industrial categories including; coastal/onshore/stripper oil and gas, drum reconditioning, hazardous waste treatment, hospitals, industrial laundries, machinery manufacturing and rebuilding, paint, pesticides, pharmaceuticals, pulp and paper, solvent recycling, transportation, and used oil reclamation and re-refining.

Analytical methods development and validation continues for the analysis of pesticides, chemicals reported under Title III of the Superfund Amendment Reauthorization Act, and toxic and hazardous pollutants subject to the Resource Conservation and Recovery Act. The Sample Control Center continues to provide a wide diversity of analytical capability services to support effluent guidelines development and other Agency programs, such as the Chesapeake Bay microlayer sampling, the National Sewage Sludge Survey, biomonitoring and bioaccumulation methods and sampling analyses, stormwater survey, and toxicity reduction evaluation studies for permitting and enforcement activities. The program is also publishing the "List of Lists," which presents an integrated and continually up-to-date list of Agency-wide pollutants of concern and identifies those for which analytical methods are available.

1989 Accomplishments

In 1989, the Agency obligated a total of $9,346,800 supported by 48.9 total workyears for this program, of which $3,228,600 was from the Salaries and Expenses appropriation and $6,118,200 was from the Abatement, Control and Compliance appropriation.

The effluent guidelines program continued regulations development for four industrial categories: pesticide manufacturing, pesticide formulating/packaging, pulp and paper manufacturing, and offshore oil and gas extraction. A Federal Register notice of data availability was published for the coastal oil and gas extraction subcategory, as part of the program's pre-regulation effort for that industry. Headquarters continued to study and initiate the development of regulations for the machinery manufacturing and rebuilding industry, hazardous

waste treaters industry and pharmaceuticals industry. Data gathering and analysis were initiated on one previously regulated industry (onshore oil and gas).

Headquarters also provided post-promulgation negotiation and litigation support for placer gold mining and the nonferrous forming and manufacturing phase II regulatory amendments, and continued support for the organic effluent limitations published in 1987. Comprehensive technical policy workshops were conducted covering the progress of the pesticides regulations, the effluent limitations associated with the organic regulations, findings of analytical studies and the DSS industries, and the oil and gas regulatory efforts.

WATER QUALITY
Grants Assistance Programs

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
PROGRAM						
Clean Lakes Program						
Abatement Control and Compliance		$9,024.4	$8,860.8	$8,747.7		-$8,747.7
	TOTAL	$9,024.4	$8,860.8	$8,747.7		-$8,747.7
Control Agency Resource Supplementation (Section 106)						
Abatement Control and Compliance		$67,472.5	$73,540.4	$72,599.1	$81,700.0	$9,100.9
	TOTAL	$67,472.5	$73,540.4	$72,599.1	$81,700.0	$9,100.9
Water Quality Management Cooperative Agreements						
Abatement Control and Compliance					$16,500.0	$16,500.0
	TOTAL				$16,500.0	$16,500.0
TOTAL:						
Abatement Control and Compliance		$76,496.9	$82,401.2	$81,346.8	$98,200.0	$16,853.2
Grants Assistance Programs	TOTAL	$76,496.9	$82,401.2	$81,346.8	$98,200.0	$16,853.2

WATER QUALITY

Grants Assistance Programs

Budget Request

The Agency requests a total of $98,200,000 for 1991. All of this request will be for the Abatement, Control and Compliance appropriation. This represents an increase of $16,853,200 from 1990.

CLEAN LAKES PROGRAM

1991 Program Request

The Agency requests no funding for this program in 1991, which represents a decrease of $8,747,700 in the Abatement, Control and Compliance appropriation. In past years, the Agency has developed and demonstrated lake restoration techniques and assisted states in classifying lakes, identifying techniques for restoring the levels of water quality needed to maintain or enhance uses, and implemented cleanup and control projects. Because the Agency has provided guidance to the states on maintaining clean lakes, it believes that the states are now able to address lake restoration needs, along with other local priorities, under their existing water quality management programs.

1990 Program

In 1990, the Agency is allocating a total of $8,747,700 for this program, all of which is from the Abatement, Control and Compliance appropriation.

In 1990, the Clean Lakes program supports state-EPA cooperative agreements under Section 314 of the Clean Water Act. The agreements are being used to support the highest priority Phase I lake diagnostic feasibility studies, Phase II implementation activities to restore and protect lake water quality and Phase III post-restoration monitoring projects to enhance the scientific basis for various lake restoration methodologies. Approximately 100 projects are being selected based on an evaluation of the environmental and public benefits of state Clean Lakes proposals.

1989 Program

In 1989, the Agency obligated a total of $9,024,400 for this program, all of which was from the Abatement, Control and Compliance appropriation.

Under the nationally competitive Clean Lakes Program, the Agency provided financial assistance to conduct 40 state and 3 Indian tribal lake water quality assessments to evaluate the status and trends in lake water quality, establish a basis for state/tribal programs and Federal assistance needs and provide the Agency with data to determine future program direction. Forty-five diagnostic/feasibility studies and lake restoration and protection implementation projects were conducted to determine causes and sources of pollution to lakes and implement measures to restore and protect lake water quality. Three post-restoration monitoring studies were initiated to advance the science of lake restoration, validate methodologies and determine the longevity and effectiveness

of restoration/protection measures.

Under the Demonstration Program, the Agency conducted seven projects meeting the legislative objectives of Section 314 of the Act, and assistance was provided consistent with the Clean Lakes Regulation (40 CFR, Part 35, subpart H).

CONTROL AGENCY RESOURCE SUPPLEMENTATION (SECTION 106)

1991 Program Request

In 1991, the Agency requests a total of $81,700,000 for this program, all of which will be for the Abatement, Control and Compliance appropriation. This represents an increase of $9,100,900 from 1990 to partially offset the loss of grant funding previously available under the construction grant set-asides.

Section 106 grants will continue to provide funding assistance for water pollution control programs operated by 63 state, interstate and territorial agencies and approximately 30 Indian tribes. Grantees will complete implementation of Section 304(l) water quality-based controls for toxic discharges in high priority waters, assess water quality conditions and trends and conduct comprehensive monitoring (including water column, fish tissue and sediment) to identify sites impacted by toxic pollutants and areas needing controls on a high priority basis. Grantees will continue to administer water quality standards programs that focus on new standards for toxic pollutants based on EPA water quality criteria and review of standards, as required by the statute.

States (and Indian tribes that qualify as states) will emphasize reissuance of expiring National Pollutant Discharge Elimination System (NPDES) permits that incorporate toxic/toxicity-based limits and will modify other permits to incorporate new limits based on the findings from earlier analyses. Grantees will also focus on selected, high priority permit modifications for publicly owned treatment works (POTWs) to address pretreatment requirements. In 1991, grantees will focus permitting, compliance and enforcement activities in waters at highest risk, particularly in critical aquatic habitats.

States (and Indian tribes that qualify as states) will develop and implement ground-water protection activities that move the states beyond protection strategies to comprehensive ground-water protection programs. States will also enhance their efforts to incorporate wellhead protection activities and pesticide management plans into their comprehensive ground-water protection programs.

1990 Program

In 1990, the Agency is allocating a total of $72,599,100 for this program, all of which is from the Abatement, Control and Compliance appropriation.

Section 106 grants continue to provide funding assistance for water pollution control programs operated by 63 state, interstate and territorial agencies and approximately 30 Indian tribes. In 1990, states continue to review water quality standards and adopt numeric and/or narrative water quality

standards for toxic pollutants and toxicity, as appropriate. States are determining whether "new" or additional waters need to be listed under Section 304(l), and are completing assessments for rivers, lakes, estuaries, wetlands and marine waters. Monitoring and assessment data are being used to establish priorities for needed control measures, to develop wasteload allocations for permits and to increase sediment contamination information.

States are modifying, issuing or reissuing NPDES permits to incorporate limits for toxic pollutants and/or toxicity in water quality-based or technology-based permits. States are also issuing permits for combined sewer overflows and sludge controls, where needed. States are being encouraged to assume pretreatment program delegations, improve reporting where the state is the POTW control authority, inspect POTWs to determine compliance status and initiate enforcement actions against inadequate POTW implementation and/or industrial user noncompliance.

To ensure compliance of NPDES-permitted facilities, states continue an effective assessment, monitoring and enforcement program, focusing on controlling toxic pollutants and protecting municipal infrastructure. Industrial enforcement actions and NPDES and pretreatment inspections include toxicity reduction evaluation methodologies. National Municipal Policy follow-up enforcement actions focus on municipalities that fail to meet their construction schedules.

Ground-water protection activities are receiving a total of $10,885,485 for support of state efforts to develop comprehensive ground-water protection programs which set priorities and integrate efforts to manage and control actual and potential sources of contamination. As part of their programs, state water agencies are developing hydrogeologic aspects of pesticides management plans, which provide protection methods tailored to area-specific differences in ground-water vulnerability. In addition, state wellhead protection (WHP) programs are being developed as key components of state comprehensive ground-water protection programs. In developing and implementing WHP programs, states play an active role in protecting a very important sub-set of their ground-water resources, i.e., ground waters that supply drinking water to public water systems.

1989 Accomplishments

In 1989, the Agency obligated a total of $67,472,500 for this program, all of which was from the Abatement, Control and Compliance appropriation.

Section 106 grants provided funding assistance for operation of state water pollution control programs for 63 state, interstate and territorial agencies, and approximately 30 Indian tribes. States resolved complex use/criteria revision and modification issues, reviewed antidegradation policies and developed implementation methods, placing special emphasis on determining priority water segments requiring site-specific criteria. States completed lists of waters impaired by toxic discharges and developed individual control strategies to comply with requirements of Section 304(l).

Expiring NPDES permits were issued/reissued by states with water quality-based limits to control toxic pollutants and toxicity and to incorporate biomonitoring requirements. A number of unexpired NPDES permits where Section 304(l) assessments had been completed and the need for toxic controls was determined were also modified. States developed sludge programs and worked with

EPA to incorporate sludge limits and/or impose biomonitoring requirements on some NPDES permits for POTWs and/or other sludge handling facilities. States assisted POTWs with approved local pretreatment programs and to develop and modify new and revised categorical standards and local limits to control toxic/hazardous pollutants. Audits were conducted to determine the adequacy of local pretreatment programs.

In the NPDES enforcement program, states concluded the National Municipal Policy effort primarily by use of judicial actions to set schedules for facilities that missed the July 1, 1988, deadline for compliance. In pretreatment enforcement, states ensured that industrial users complied with categorical standards and that local control authorities complied with provisions of their approved programs. States conducted pretreatment compliance inspections and ensured that POTWs had adequate control mechanisms in place. They continued to conduct both sampling and non-sampling inspections and to use penalties to enforce Best Achievable Technology and water quality-based permit requirements to address critical water-quality objectives.

States completed and revised their nonpoint source management programs to reflect EPA review. States reviewed and refined their ground-water protection strategies to determine the measures needed to protect ground-water resources, particularly in relationship with the uses of this resource.

WATER QUALITY MANAGEMENT COOPERATIVE AGREEMENTS

1991 Program Request

The Agency requests a total of $16,500,000 for this program, all of which will be for the Abatement, Control and Compliance appropriation. This represents an increase of $16,500,000 from 1990 to support state permitting, enforcement and water quality management activities. This funding will partially offset the reductions in Federal grant funds available to states under the construction grant set-asides, which no longer exist after 1990.

Section 104(b)(3) of the Clean Water Act (CWA) allows EPA to make grants to state water pollution control agencies through cooperative agreements to conduct and promote investigations, experiments, training exercises, demonstrations and surveys to determine the causes, effects and extent of pollution. It also allows EPA to institute measures to prevent, reduce and eliminate pollution.

Although grant funds will be available to states for activities previously funded under the set-asides, funds will be targeted to states that commit to achieving concrete results, with the understanding that the funds will serve as "seed money" to help states address many of the newer CWA requirements.

Cooperative agreements will be negotiated with states that have assumed full responsibility for administering the National Pollutant Discharge Elimination System (NPDES) and/or pretreatment programs. Funds will be made available for specific activities related to permits, pretreatment and enforcement. Specifically, eligible activities include upgrading NPDES permitting and pretreatment programs to ensure consistency with current statutory and regulatory requirements and developing and implementing new state sludge

management programs. States may also finance the development of new complex permits with requirements for combined sewer overflows, stormwater discharges, sludge disposal, pretreatment and pollution prevention. Activities to upgrade local pretreatment programs to ensure consistency with new regulatory requirements for toxics and hazardous wastes and to improve compliance with permit limits and requirements are also eligible for funding. Finally, states may finance NPDES permit enforcement actions.

In addition, funds will be available to all states to perform activities related to control of toxic pollutants and protection of coastal and wetland resources. Specifically, funds will be used by states to adopt new water quality standards based on EPA water quality criteria for toxic pollutants and on criteria for salt water and wetlands. Funds may also be used by states to conduct special monitoring to support water quality-based controls for toxic pollutants and for facilities that discharge into salt waters and wetlands.

1990 Program

No funds are allocated for this program in 1990.

1989 Accomplishments

No funds were obligated for this program in 1989.

WATER QUALITY
Water Quality Strategies Implementation

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
			(DOLLARS IN THOUSANDS)		
PROGRAM					
Wetlands Protection					
Salaries & Expenses	$4,681.1	$5,081.0	$5,273.4	$8,434.5	$3,161.1
Abatement Control and Compliance	$3,035.7	$3,529.0	$3,478.8	$5,413.0	$1,934.2
TOTAL	$7,716.8	$8,610.0	$8,752.2	$13,847.5	$5,095.3
Wetlands Program Implementation					
Abatement Control and Compliance		$1,230.7	$1,215.0	$5,000.0	$3,785.0
TOTAL		$1,230.7	$1,215.0	$5,000.0	$3,785.0
Ocean Disposal Permits					
Salaries & Expenses	$2,400.6	$3,860.8	$3,367.4	$2,580.6	-$786.8
Abatement Control and Compliance	$5,865.7	$8,144.8	$7,999.0	$6,906.9	-$1,092.1
TOTAL	$8,266.3	$12,005.6	$11,366.4	$9,487.5	-$1,878.9
Environmental Emergency Response & Prevention					
Salaries & Expenses	$2,019.2	$1,527.0	$1,763.6	$2,365.0	$601.4
Abatement Control and Compliance	$1,893.1	$1,164.7	$1,150.0	$4,682.8	$3,532.8
TOTAL	$3,912.3	$2,691.7	$2,913.6	$7,047.8	$4,134.2
Spill Restoration Program					
Salaries & Expenses		$883.6	$871.8		-$871.8
TOTAL		$883.6	$871.8		-$871.8
Standards & Regulations					
Salaries & Expenses	$4,400.4	$4,783.0	$4,604.5	$5,432.1	$827.6
Abatement Control and Compliance	$3,316.5	$4,666.3	$4,132.8	$4,341.9	$209.1
TOTAL	$7,716.9	$9,449.3	$8,737.3	$9,774.0	$1,036.7
Nonpoint Source Management Grants					
Abatement Control and Compliance		$37,411.1	$36,933.1	$14,250.0	-$22,683.1
TOTAL		$37,411.1	$36,933.1	$14,250.0	-$22,683.1
Nonpoint Source Implementation					
Abatement Control and Compliance		$1,969.1	$1,944.1	$750.0	-$1,194.1
TOTAL		$1,969.1	$1,944.1	$750.0	-$1,194.1
TOTAL:					
Salaries & Expenses	$13,501.3	$16,135.4	$15,880.7	$18,812.2	$2,931.5
Abatement Control and Compliance	$14,111.0	$58,115.7	$56,852.8	$41,344.6	-$15,508.2

WATER QUALITY
Water Quality Strategies Implementation

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
Water Quality Strategies Implementation TOTAL	$27,612.3	$74,251.1	$72,733.5	$60,156.8	-$12,576.7
PERMANENT WORKYEARS					
Wetlands Protection	96.4	111.6	108.4	161.6	53.2
Ocean Disposal Permits	39.7	65.1	53.3	50.3	-3.0
Ocean Dumping Fund				10.0	10.0
Environmental Emergency Response & Prevention	36.5	36.8	35.0	46.8	11.8
Spill Restoration Program		16.0			
Standards & Regulations	79.3	94.7	88.6	98.0	9.4
TOTAL PERMANENT WORKYEARS	251.9	324.2	285.3	366.7	81.4
TOTAL WORKYEARS					
Wetlands Protection	98.8	111.6	111.6	161.6	50.0
Ocean Disposal Permits	42.4	65.1	55.1	50.3	-4.8
Ocean Dumping Fund				10.0	10.0
Environmental Emergency Response & Prevention	39.8	36.8	36.8	46.8	10.0
Spill Restoration Program		16.0			
Standards & Regulations	83.6	94.7	91.7	98.0	6.3
TOTAL WORKYEARS	264.6	324.2	295.2	366.7	71.5

WATER QUALITY

Water Quality Strategies Implementation

Budget Request

The Agency requests a total of $60,156,800 supported by 366.7 total workyears for 1991, a decrease of $12,576,700 and an increase of 71.5 total workyears from 1990. Of the request, $18,812,200 will be for the Salaries and Expenses appropriation and $41,344,600 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $2,931,500 in the Salaries and Expenses appropriation and a decrease of $15,508,200 in the Abatement, Control and Compliance appropriation.

WETLANDS PROTECTION

1991 Program Request

The Agency requests a total of $13,847,500 supported by 161.6 total workyears for this program, of which $8,434,500 will be for the Salaries and Expenses appropriations and $5,413,000 will be for the Abatement, Control and Compliance Appropriation. This represents an increase of $3,161,100 and $1,934,200 respectively, and an increase of 50.0 workyears. The increases reflect the Agency's support for achieving the President's goal of no net loss of wetlands and several other major Presidential initiatives: state capacity, enforcement, and protection of critical habitats.

The highest priority of the wetlands program will be to achieve the President's goal of no net loss of wetlands through implementation of the recommendations of the Domestic Policy Council Wetlands Task Force, a stronger Section 404 program, and assisting states to develop effective wetland protection programs. The program's field presence will be greatly strengthened by the increased workyears in the Regional offices and the availability of increased financial assistance to states.

During 1991, a major component of a strong Section 404 program will be the enhanced field presence of the Agency and an increasingly cooperative working relationship with the Army Corps of Engineers. The program will continue to implement the memoranda of agreement (MOA) with the Corps on mitigation policy, enforcement, and delineation of jurisdictional wetlands. EPA will be monitoring restoration activities occurring under the mitigation MOA. Section 404 enforcement activities will be augmented by an aggressive public outreach/media campaign to inform the public and the regulated community of the values and functions of wetlands and the consequences of their destruction or degradation. The program will be working with the Marine and Estuarine Protection Program to implement the improved test methods and procedural guidance on sediment criteria and disposal of dredged material in coastal waters. These efforts will ensure that wetlands, rivers, lakes and coastal/marine waters will be subject to the same standards and equal levels of protection.

Increased funding assistance will be provided for states to encourage state program assumption and development of state comprehensive wetlands protection

plans. Other state activities to promote wetlands protection will include the use of the Section 401 water quality certification process and development of state water quality standards for wetlands. EPA will continue to assist in the development of local programs through the Regions and states and issuance of information/technology transfer. Continued focus will be placed upon anticipatory approaches to wetlands protection including advance identification. The Agency will implement a variety of projects aimed at protecting special wetland ecosystems such as coastal Louisiana and western riparian wetlands.

The Agency will work with other Federal and state agencies on education and technical assistance aimed at abating the high loss of wetlands through agricultural uses. Since EPA has limited regulatory powers in this area, forming partnerships with others is a key to success. EPA will disseminate new technical tools emerging from the Agency's research efforts in 1989 and 1990 in the areas of restoration, cumulative impact assessments, and long term monitoring of wetlands "health." EPA will play an increasing role in international activities, seeking opportunities to share U.S. experience and expertise with others, especially developing countries.

1990 Program

In 1990, the Agency is allocating a total of $8,752,200 supported by 111.6 total workyears for this program, of which $5,273,400 is for the Salaries and Expenses appropriation and $3,478,800 is for the Abatement, Control and Compliance appropriation.

In 1990, the Agency continues to work with the Corps of Engineers and other Federal agencies in issuing policies and procedures to clarify or amplify Federal regulatory requirements of the Section 404 program. Implementation of the enforcement and jurisdictional MOA, the administrative penalty authorities, the EPA wetlands delineation manual, the 404(c) procedural guidance, and the bottomland hardwood guidance is occurring. The program is issuing final regulations so that qualified and approved Indian Tribes may administer the Section 404 program.

The Agency is supporting the work of the Domestic Policy Council's Task Force on Wetlands to develop a policy for implementing the President's goal of "no net loss" of Wetlands. The Agency continues to work with other Federal agencies on a variety of Federal wetlands protection issues including streamlining the Section 404 regulatory process, improving Federal land management practices, and strengthening the knowledge and science of wetlands. In particular, EPA is participating on the Interagency Floodplain Task Force to demonstrate the use of integrated floodplain management planning for reducing flood losses and erosion, protecting wetlands, providing recreational opportunities, and improving stream water quality.

Major activities in 1990 include more intensive efforts aimed at state wetlands protection programs, the use of anticipatory approaches for wetlands protection, and aggressive enforcement activities. State interest in wetlands protection activities is increasing due to increased public knowledge of the importance of wetlands and the availability of a small amount of "seed" grant funding for pilot state programs. The Agency is holding training workshops involving state personnel on Section 404 regulations and enforcement, the delineation methodology, water demand management, and use of planning/negotiation

techniques. The Agency is working with states as they revise their 401 water quality certification processes to reflect wetlands values and functions.

The Agency is continuing its use of anticipatory approaches for wetlands protection, particularly in areas where loss rates continue to be unacceptably high and traditional program tools are not satisfactorily addressing the problem.

Enforcement activities are expanding in 1990, building upon new directions and experience gained under a new enforcement memorandum of agreement with the Army, new guidance on the use of administrative civil penalties, an expanding EPA criminal enforcement program, and greater field experience. The use of administrative penalty orders is increasing commensurate with these changes and priorities, and with the Agency's enhanced ability to detect violations through remote sensing, citizen awareness, and improved interagency networks of Federal and state field personnel.

In 1990, the program is working with the Marine and Estuarine Protection Program to develop improved test methods and procedural guidance on sediment criteria and disposal of dredged material in coastal waters. The criteria and guidance should apply equally to material disposed of in wetlands, rivers, lakes and coastal/marine waters.

1989 Accomplishments

In 1989, the Agency obligated a total of $7,716,800 supported by 98.8 total workyears for this program, of which $4,681,100 was from the Salaries and Expenses appropriation and $3,035,700 was from the Abatement, Control and Compliance appropriation.

The Agency made major strides in streamlining the Section 404 regulatory program during 1989. It issued MOA with the Army Corps of Engineers on enforcement and on determination of geographic jurisdiction and Section 404(f) exemptions. EPA, the Corps, Soil Conservation Service, and the U.S. Fish and Wildlife Service also agreed upon common testing protocols in the "Federal Manual for Identifying and Delineating Jurisdictional Wetlands." Training for EPA's Regions and states was held on Section 404 enforcement and the jurisdictional delineation methodology. During 1989, the Regional programs used public outreach/media campaigns on their enforcement activities as very effective tools in preventing further destruction and degradation of wetlands.

In 1989, EPA continued to place heavy emphasis upon comprehensive planning and other anticipatory approaches to wetlands protection. A total of 58 advance identification actions were completed, ongoing, or planned. River corridor/ floodplain management activities were tested at a number of locations.

The Agency continued to assist states as they examined the feasibility of assuming administration of the Section 404 program or otherwise develop statewide wetlands protection programs. EPA issued a "Handbook on Section 401 Certification" to help states use the Clean Water Act's water quality certification process as a tool for wetlands protection. The Agency assisted several states to assess vulnerable wetlands (cumulative impact assessments) and develop narrative water quality standards for wetlands. New regulations were proposed that would allow Indian tribes to assume administrative responsibility for the Section 404 program.

The Agency supported efforts by the Domestic Policy Council's Task Force on Wetlands to develop a policy to achieve the President's goal of "no net loss" of wetlands.

WETLANDS IMPLEMENTATION PROGRAM

1991 Program Request

The Agency requests a total of $5,000,000 for this program, all of which will be for the Abatement, Control and Compliance appropriation. This represents an increase of $3,785,000. The increase reflects the Agency's support for achieving the President's goal of "no net loss" of wetlands and several other major Presidential initiatives: state capacity, enforcement, and protection of critical habitats.

The wetlands implementation program will provide increased grant assistance to states and Indian tribes for research, investigations, experiments, training, demonstrations, surveys, and studies for the protection of wetlands from pollution under Section 104 of the Clean Water Act. One of the major avenues to achieving the President's goal of "no net loss" of wetlands is through increasing the roles and responsibilities of state governments and Indian tribes in wetlands protection. Grant assistance will allow many states and Indian tribes to acquire basic information and data on their wetlands resources, the risks posed to these resources, examine a wide variety of techniques for protection for these critical resources, and develop comprehensive wetlands protection plans that may combine watershed, nonpoint source, river corridor, estuary/coastal management and other critical habitat protection initiatives. States will undertake aggressive public outreach/education campaigns in concert with local government planning and protection measures.

1990 Program

In 1990, the Agency is allocating a total of $1,215,000 for this program, all of which is for the Abatement, Control and Compliance appropriation.

During 1990, grants are being made available to states and Indian tribes under a wetlands implementation program for the first time. In 1989 and in previous years, the Agency's wetlands protection program has provided small amounts of "seed" money to a limited number of states and one Indian tribe to examine the feasibility of assuming administration of the Section 404 program. The State of Michigan is the only state that has assumed the program, which in other states is jointly administered by the Corps of Engineers and EPA. In 1990, examples of the ways in which states are increasing their wetlands protection activities include: evaluation of existing statutory and regulatory programs; development of narrative water quality standards for wetlands; incorporation of wetlands protection in the Section 401 water quality certification process; and identification of wetland resources, their functions, and priorities.

1989 Accomplishments

No resources were provided to this program in 1989.

OCEAN DISPOSAL PERMITS

1991 Program Request

The Agency requests a total $9,487,500 supported by 60.3 total workyears for this program, of which $2,580,600 will be for the Salaries and Expenses appropriation and $6,906,900 will be for the Abatement, Control and Compliance appropriation. Total workyears will include 50.3 from the Salaries and Expenses appropriation and 10.0 will be from the Ocean Dumping Fund. This represents a decrease of $786,800 in Salaries and Expenses, a decrease of $1,092,100 in Abatement, Control and Compliance, a decrease of 4.8 in total Salaries and Expenses workyears, and an increase of 10.0 total workyears from the Ocean Dumping Fund. The decreases in Salaries and Expenses and workyears reflect the transfer of funding for workyears provided for the Ocean Dumping Ban Act (ODBA) from the Salaries and Expenses appropriation to the Ocean Dumping Fund. The decrease in Abatement, Control and Compliance reflects the completion of the studies needed to develop the Ocean Dumping regulation proposal. The addition of workyears supported by ODF reflects additional Headquarters and Regional site management, monitoring, and surveillance, and monitoring of compliance with enforcement agreements required under ODBA.

The Agency will propose revised Ocean Dumping (OD) regulations on disposal site designation and dredged material disposal, and will initiate a proposal for regulations on disposal of other materials. This will include Headquarters' support for Regional implementation of the regulations through training and technical assistance. The Regional role in disposal site management and monitoring will be expanded to ensure compliance and enforcement of ocean dumping criteria and permit requirements. Headquarters will continue work to control marine debris through identification of sources and the development of reduction strategies. Additional support for Region II will be continued for monitoring of nearshore waters to address the continuing problems on the New York-New Jersey beaches. Region II will complete the final New York Bight Restoration Plan and a draft of the New York Mud Dump Site study.

The Agency will meet the requirements of ODBA to protect the marine environment at the 106 Mile Site (deepwater municipal sludge dump site) off the New Jersey coast. In support of these requirements, Headquarters and Region II will expand management, monitoring, and surveillance of the site in coordination with the National Oceanic and Atmospheric Administration (NOAA) and the U.S. Coast Guard (USCG). These activities will also ensure that the remaining sludge dumpers comply with their enforcement agreements.

The Regions will have a more intensive role in the development of environmental impact statements (EIS) for ocean dredged material disposal sites, and in site management and monitoring. Ongoing management responsibilities of the Regions will increase as more interim dredged material disposal sites are designated as final sites. There will be further emphasis on data management as the number of continuing and comprehensive site monitoring programs increases.

To implement the goals of the National Coastal and Marine Policy (NCMP), the Agency, in cooperation with other Federal agencies, will begin to develop a compliance and enforcement improvement initiative to reduce risk to human health and aquatic life. This program will include guidance, training, public awareness, and support from Headquarters for Regional permit and regulatory

compliance and enforcement actions. The Agency will work with the Corps of Engineers (COE) to develop improved procedures for identifying illegal ocean dumping of dredge materials, and will work with NOAA and USCG on improving surveillance. In addressing the NCMP goal of international leadership, the Agency will continue to participate in activities under the London Dumping Convention, the International Convention for the Prevention of Pollution from Ships (MARPOL), and the Cartegena Convention to preserve the coastal and marine environments.

1990 Program

The Agency is allocating a total $11,366,400 supported by 55.1 total workyears for this program, of which $3,367,400 is from the Salaries and Expenses appropriation and $7,999,000 is from the Abatement, Control and Compliance appropriation.

The Agency continues to develop revised OD regulations to respond to statutory amendments and lawsuits. Headquarters is developing sediment testing protocols and a comprehensive, risk-based management strategy to bring the Marine Protection Research and Sanctuaries Act Section 103 program and the Clean Water Act Section 404 program into harmony. In addition, Headquarters is developing a compliance and enforcement strategy for the OD program.

Technical guidance and training continues to be provided to support the Regions' expanded role in the development of EISs for the COE and to support ongoing site management and monitoring activities. The Agency continues to support the resolution of concerns on dredging requirements of the U.S. Navy's Homeporting programs. Region II continues to develop the New York Bight Restoration Plan and the New York Mud Dump Site alternative study. In addition, Headquarters and Region II, in cooperation with USCG and NOAA, are developing and implementing an expanded monitoring plan for the 106 Mile Site and related other sites, as required by ODBA. Headquarters undertakes work to control marine debris through identification of sources and the development of reduction strategies. The Agency continues to participate in international efforts to preserve the coastal and marine environments through activities under the London Dumping Convention and other international agreements.

1989 Accomplishments

The Agency obligated a total of $8,266,300 supported by 42.4 total workyears for this program, of which $2,400,600 was from the Salaries and Expenses appropriation and $5,865,700 was from the Abatement, Control and Compliance appropriation.

The Agency continued development of a comprehensive revision to the OD regulations and development of program guidance and technical protocols, as required by statutory amendments and court judgments. Most of the coastal Regions completed negotiations and began implementation of memoranda of understanding (MOU) with the appropriate COE District offices to prepare dredged material disposal site EISs and site designations. Headquarters and Region II began increased monitoring of the 106 Mile Site in response to ODBA requirements.

Work continued in Region II on preparation of the New York Bight Restoration Plan, and two other studies, one relating to the selection of an alternative disposal site to replace the New York Mud Dump Site and a second to determine the resolution of the problem of plastics disposal in the New York Bight. In addition, Headquarters and Region II continued work on a study with NOAA on the adverse effects of the improper disposal of plastic articles on the marine environment and on methods to reduce the amount of plastic debris. Also, they continued a public outreach and education program in cooperation with NOAA and USCG, on the problems of plastic debris in the marine environment and the need for reduction of such debris. The Agency continued to participate in international efforts to preserve the coastal and marine environments through activities under the London Dumping Convention and other international agreements.

ENVIRONMENTAL EMERGENCY RESPONSE AND PREVENTION

1991 Program Request

The Agency requests a total of $7,047,800 supported by 46.8 total workyears for this program of which $2,365,000 will be for the Salaries and Expenses appropriation and $4,682,800 will be for the Abatement, Control and Compliance appropriation. This reflects an increase of $601,400 in Salaries and Expenses, an increase of $3,532,800 in Abatement, Control and Compliance,and an increase of 10.0 workyears from 1990.

Additional resources will be used to improve and enhance the Agency's ability to prepare for and respond to major inland oil spills, especially those in or near environmentally sensitive areas. The Agency will also use the resources to complete the Phase I amendments to the Spill Prevention, Countermeasure and Control (SPCC) regulations, which will require facility operators to have adequate contingency and response plans if an oil spill were to breach the preventive measures taken at the site.

The Agency will remain on a 24-hour alert to receive notifications of accidental releases of oil and other petroleum products. It will continue to direct and monitor removals at major oil incidents. EPA will also monitor removals by potentially responsible parties (PRP) or state and local authorities, and it will provide technical assistance to the U.S. Coast Guard on coastal oil spills when the Emergency Response Team (ERT) is activated or when the U.S. Coast Guard makes a specific request.

In addition, the Agency will: 1) develop guidelines and procedures for targeting inspection and enforcement efforts on facilities where spills could result in significant or severe environmental consequences; and 2) conduct inspections and follow-up activities at 100 of these targeted facilities. The Agency will implement the recommendations from the recent On-Scene Coordinators' Readiness Task Force, which include: 1) arranging and conducting a greater number of response simulations and exercises; 2) reviewing selected state and local contingency plans; and 3) working with industrial personnel to pre-stage oil spill cleanup equipment near environmentally sensitive areas.

1990 Program

In 1990, the Agency is allocating a total of $2,913,600 supported by 36.8 total workyears for this program, of which $1,763,600 is from the Salaries and Expenses appropriation and $1,150,000 is from the Abatement, Control and Compliance appropriation.

The Agency continues to handle and monitor oil spill notifications; direct response operations at major inland waterway oil spills where there is no other governmental or private entity able or willing to respond; conduct SPCC inspections at facilities where there is some indication that problems exist with the contingency plan and/or plan implementation; and monitor on-scene removal activities of PRPs or state and local authorities at major spills. Moreover, the Agency updates contingency plans; provides advice and technical guidance to state and local officials and PRPs involved in spill response; organizes and staffs Regional Response Team meetings; assists the Federal Emergency Management Agency (FEMA) at major disasters; participates in response and safety training of state and local staff; and maintains response equipment and facilities. Resources support the development of Phase II of the Oil Spill Regulations (initiated as a result of the Ashland Oil Spill). Phase II expands the regulations to include site specific contingency plans and prevention of spills at larger facilities that may affect drinking water or sensitive ecosystems. The EPA expects this amendment to be published as a proposed rule in the Federal Register by summer of 1990.

1989 Accomplishments

In 1989, the Agency obligated $3,912,300 supported by 39.8 total workyears for this program, of which $2,019,200 was from the Salaries and Expenses appropriation and $1,893,100 was from the Abatement, Control and Compliance appropriation.

The program received and screened a total of 7,133 notifications of oil spill releases, conducted 513 SPCC inspections, performed on-scene monitoring of 542 oil spills, conducted 207 oil spill responses, and investigated 66 oil releases. Based on the recommendations of the Oil Spill Prevention, Control and Countermeasures Program Task Force (Task Force), convened in response to concerns raised by the Ashland Oil Spill, EPA has amended the SPCC regulations. The amendments to the SPCC regulations make most discretionary aspects of the regulations mandatory.

SPILL RESTORATION PROGRAM

1991 Program Request

The Agency requests no resources for this program. This represents a decrease of $871,800 in the Salaries and Expenses appropriation. The decrease reflects the completion of activities undertaken with funds appropriated in 1990.

1990 Program

The Agency is allocating a total of $871,800 for this program, all of which is from the Salaries and Expenses appropriation.

The Agency, through the Alaska Restoration Task Force Office (ARTFO), supports activities to develop and implement a restoration plan of the Trustee Agencies -- the Departments of Agriculture, Commerce, and the Interior -- for the areas impacted by EXXON VALDEZ oil spill. The Agency provides technical assistance and expertise to designated task forces, and to the Trustee Agencies in the development of a restoration plan, a review of damage assessment data, and identification of data needs. The Regional office is guiding and participating in activities of the Regional Response Team and in restoration activities. The office supports the State of Alaska in assessing contamination and clean-up activities and assists the Trustee Agencies in sampling and monitoring programs. The Agency also participates in workshops, reviews workplans, and reviews environmental and water quality data. Agency support is being provided for the development of monitoring protocols for toxic pollutant investigations.

1989 Accomplishments

In 1989, no funds were obligated for this program.

STANDARDS AND REGULATIONS

1991 Program Request

The Agency requests a total of $9,774,000 supported by 98.0 total workyears for this program, of which $5,432,100 will be for the Salaries and Expenses appropriation and $4,341,900 will be for the Abatement, Control and Compliance appropriation. This reflects increases of $827,600 in Salaries and Expenses, 6.3 workyears and $209,100 in Abatement, Control and Compliance. The increases will support special criteria and standards work for critical aquatic resource protection, especially coastal and marine waters.

The program will address pressing needs for guidance and technical support for state standards to protect critical aquatic resources. To select pollutants for numeric salt and fresh water criteria, EPA will use a ranking methodology to identify pollutants judged to pose unusually high risk due to toxic effects and exposure to humans and aquatic life. EPA will then (1) issue 5 proposed and 5 final fresh water quality criteria documents, 6 proposed salt water quality criteria documents, 15 proposed and 15 final water quality advisories, and begin developing additional fresh and salt water criteria; (2) complete and verify methodology to develop sediment criteria for organic pollutants; (3) develop guidance to strengthen numeric criteria for toxic pollutants; (4) promulgate revisions to the Water Quality Standards (WQS) regulations; and (5) provide workshops, training and technical assistance to help states adopt numeric criteria for toxic pollutants. To assist states in addressing the growing problems in coastal/marine waters, EPA will accelerate development of salt water criteria for toxic pollutants in the water column and in sediments; develop guidance on using salt water values, sediment criteria and biological criteria to adopt WQS for coastal waters; and provide technical assistance and five additional workshops to strengthen WQS for coastal waters.

Regions will assist states in adopting new provisions in WQS to assess and protect critical fresh and alst waters such as esturies, coastal areas or areas impacted by contaminated sediments. Regions will continue to review and approve state and Indian WQS, resolve issues and provide needed litigation support. Regions will complete promulgation of WQS for states failing to meet statutory requirements to adopt numeric criteria for priority toxic pollutants. To help target activities to geographic areas based on ecological and human health risk, Regions will conduct training and work with states to use data collected in conjunction with Sections 305(b), 304(l) and 303(d) analyses. Regions will assist states in adopting salt and fresh water criteria for newly-identified toxic pollutants, in addressing bioaccumulation of toxic pollutants in fish flesh and in applying antidegradation implementation methods.

In targeted coastal and marine areas, Regions will assist states in adopting salt water toxic criteria, using biological criteria to evaluate and protect biological integrity and applying antidegradation policies and implementation procedures. In cooperation with states and Indian tribes, Regions will determine where site-specific criteria are warranted and integrate the site-specific analyses into review and revision of state WQS (particularly where water quality-based permits or toxic pollutants are impacting critical aquatic resources). Regions will provide management oversight to existing Clean Lakes projects and prepare information for the Report to Congress on program accomplishments.

EPA will promulgate final first-round criteria and regulations for disposal and use of sewage sludge based on the National Sewage Sludge Survey; revise risk assessment and risk management models based on the Survey; resolve cross-media issues; and complete the rulemaking package and four companion technical support documents. EPA will also conduct workshops and provide technical assistance to states and initiate data collection and analysis on additional pollutants, disposal practices and exposure pathways for second-round regulations.

1990 Program

In 1990, the Agency is allocating a total of $8,737,300 supported by 91.7 total workyears for this program, of which $4,604,500 is from the Salaries and Expenses appropriation and $4,132,800 is from the Abatement, Control and Compliance appropriation.

The program continues to emphasize state adoption of numeric criteria for toxic pollutants; initiate promulgation actions for states not complying with Section 303(c)(2)(B) of the Clean Water Act (CWA); and develop methods to implement state antidegradation policies. Priority objectives for the 1991-1993 WQS triennium are being established and amendments to incorporate changes in the 1987 CWA amendments are being proposed. The program is promulgating rules for qualified Indian tribes and resolving disputes as well as overseeing expansion of the WQS program to qualified Indian tribes. Approximately 7 final water quality criteria documents, 6 proposed criteria documents and nearly 15 water quality advisories are being issued. To ensure adoption of biological and sediment criteria and wetland WQS by the states, EPA is developing criteria and guidance for the 1991-1993 triennium. Outreach programs are providing information to the states on policies and requirements, interpretation and use of water quality criteria and advisories and use of sediment and biological criteria.

EPA is conducting additional sewage sludge modeling activities, evaluating proposed numerical criteria and completing its response to public comments on the proposed technical regulations for use and disposal of sewage sludge. If appropriate, EPA will publish new information for public comment on the proposed technical regulation, and may prepare additional regulatory options.

1989 Accomplishments

In 1989, the Agency obligated a total of $7,716,900 supported by 83.6 total workyears for this program, of which $4,400,400 was from the Salaries and Expenses appropriation and $3,316,500 was from the Abatement, Control and Compliance appropriation.

The Agency published one proposed toxic water quality criterion, one salt water aquatic criteria document and a final methodology for deriving sediment criteria values for nonpolar organic contaminants. Headquarters and Regions reviewed state WQS relating to use attainability, site-specific criteria development, antidegradation and adoption of criteria for toxic pollutants.

Regions worked with states to examine the adequacy of narrative criteria for toxics and control methods recommended for toxic discharges and to resolve complex use/criteria revision and modification issues and differences in state WQS. Antidegradation policies were reviewed for consistency with regulatory requirements and states were assisted in developing implementation methods.

EPA examined priority water segments requiring site-specific criteria and assisted states in collecting data and selecting appropriate methods and procedures for use attainability analyses. Regions helped states conduct use attainability analyses and provided guidance, data and examples from other states. Regions also provided assistance to states to develop assessments of lake water quality included in Section 305(b) Reports and managed existing grants to states for lake assessments and restorations.

EPA proposed regulations identifying toxic pollutants in sludge, appropriate management practices and numeric limits for 29 pollutants. EPA also prepared five technical support documents addressing common sludge use and disposal practices, and conducted four public hearings and three workshops to assist Regions and states interpret and apply the sludge technical regulations. EPA evaluated 634 public comments (5,500 pages) on the sludge regulations, began analyzing data from the National Sewage Sludge Survey and continued efforts to generate incinerator emission data.

NONPOINT SOURCE MANAGEMENT GRANTS

1991 Program Request

The Agency requests a total of $14,250,000 for this program, all of which will be for the Abatement, Control and Compliance appropriation. This represents a decrease of $22,683,100 from 1990, which reflects a reduced need for funding after initial start-up of implementation efforts.

The Clean Water Act (CWA) amendments of 1987 required states to prepare and submit nonpoint source (NPS) management programs that describe how they plan to

prevent and control NPS pollution and improve water quality. Under Section 319 of the CWA, EPA is authorized to make grants to states that demonstrate the willingness and ability to effectively implement Best Management Practices (BMPs) that control particularly difficult or serious NPS pollution problems and/or use innovative methods or practices to prevent or control NPS pollution. Major sources of NPS pollution to be addressed include (1) agricultural practices that result in surface water contamination by soils, fertilizers, pesticides, and animal wastes; (2) resource extraction (mining/oil and gas) causing serious water quality impacts; and (3) urban NPS pollution (contaminated urban runoff) that results in substantial loadings of toxic and conventional pollutants.

Projects selected for funding will focus on measures (regulatory and nonregulatory) to abate and prevent NPS pollution in targeted watersheds, particularly critical aquatic resources and habitats such as estuaries, near coastal waters and wetlands. Each project selected for funding must include provisions for (1) on-site assistance to ensure effective implementation of technical solutions, education and outreach to raise public awareness and mobilize public participation, and technology and information transfer to upstream communities whose cooperation is essential to the long-term success of the specific project; (2) innovative prevention and control techniques that may have wider applicability; (3) state and local regulatory and enforcement mechanisms to complement traditional voluntary efforts, where appropriate; (4) environmental/biological indicators to measure changes in water quality and habitat; (5) techniques to avoid ground-water contamination as a result of reducing and/or eliminating NPS pollution to surface waters; and (6) sound institutional and financial arrangements that will lead to long-term water quality improvements through self-sustaining state and/or local NPS prevention and control programs. All activities selected for funding must achieve discrete, measurable results that will reduce risk to human health and the aquatic environment and must advance states toward effective implementation of comprehensive NPS management programs.

Grants under Section 319 will also be used for activities to build state institutional capabilities to protect ground-water resources from NPS pollution. Such activities include (1) ground-water resource assessments in areas where NPS pollution is a major concern; (2) development of best management practices to prevent ground-water contamination; (3) development of technical assistance documents and training efforts; (4) establishment of state and local regulatory and nonregulatory capabilities; (5) establishment of institutional responsibilities and coordination mechanisms; and (6) development of ground-water monitoring capability, including data management.

1990 Program

In 1990, the Agency is allocating a total of $36,933,100 for this program, all of which is from the Abatement, Control and Compliance appropriation.

Nonpoint source management grants are available to states and qualified Indian tribes to implement approved elements of their Section 319 NPS management programs. EPA is developing state-by-state planning targets for funding based on interim criteria that reflect nonpoint source needs; preparing guidance on the award and management of grants in accordance EPA's December 1987 NPS Guidance; and awarding grants to fund NPS activities that result in demonstrated

progress in achieving Congress' goal of preventing and abating NPS pollution. Priorities for funding include (1) the effectiveness of a state's performance to date; (2) programs balanced to provide for both improvement and protection of water quality in specific watersheds and institutionalization of long-term, statewide NPS management programs; (3) particular NPS activities of highest priority to the Agency (including those articulated in the 1987 NPS Guidance); and (4) commitment to conduct appropriate before-and-after water quality monitoring and evaluation activities to enable EPA to report to Congress on progress in reducing NPS pollution and improving water quality. Each grant will contain a ground-water element to further state assessment of ground-water resources and to establish a basis for identifying priority protection needs prior to undertaking any site-specific measures. If a state already has a good basis for determining its ground-water priorities, then the state should implement efforts to address these priorities.

1989 Accomplishments

No funds were obligated for this program in 1989.

NONPOINT SOURCE IMPLEMENTATION

1991 Program Request

The Agency requests a total of $750,000 for this program, all of which will be for the Abatement, Control and Compliance appropriation. This represents a decrease of $1,194,100 from 1990, which is consistent with reduced grant funding after initial start-up.

Based on the long-term funding policy developed in 1990, Headquarters will continue to oversee Regional efforts to award and manage funds to states under Section 319. EPA will continue to negotiate sound state work plans for projects consistent with the complex legal and procedural requirements associated with grants under Section 319, including program tracking and accounting requirements. EPA will also continue activities related to the approval of complete NPS management programs in each state and to oversee state implementation, which may include on-site reviews.

1990 Program

In 1990, the Agency is allocating $1,944,100 for this program, all of which is from the Abatement, Control and Compliance appropriation.

Since 1990 is the initial year of Section 319(h) funding, start-up activities represent a major program focus. Start-up activities include developing state-by-state planning targets for funding based on interim criteria consistent with direction provided by Congress, preparing guidance on the award and management of grants consistent with EPA's 1987 guidance and awarding grants for NPS activities based on funding priorities. A NPS funding policy for use in 1991 and beyond is also being developed.

Further, EPA is developing and implementing reporting and oversight procedures designed to ensure the integrity of the grants process and assure positive environmental results from the projects selected for funding. Activities include Headquarters review of selected management programs, grant

work programs and watershed plans; participation with Regions in selected reviews of state programs; and on-site review of Regional NPS programs. Regions will conduct on-site inspections of selected watershed projects to assure satisfactory progress.

1989 Accomplishments

The Agency did not obligate funds for this program in 1989.

WATER QUALITY
Water Quality Monitoring & Analysis

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Coastal Environment Management					
Salaries & Expenses	$4,135.8	$6,315.9	$5,813.4	$7,627.6	$1,814.2
Abatement Control and Compliance	$11,511.3	$15,461.8	$15,239.5	$27,248.9	$12,009.4
TOTAL	$15,647.1	$21,777.7	$21,052.9	$34,876.5	$13,823.6
Water Quality Monitoring & Analysis					
Salaries & Expenses	$8,231.5	$9,091.7	$8,176.0	$8,670.9	$494.9
Abatement Control and Compliance	$6,822.7	$6,603.5	$6,514.4	$6,110.1	$404.3-
TOTAL	$15,054.2	$15,695.2	$14,690.4	$14,781.0	$90.6
TOTAL:					
Salaries & Expenses	$12,367.3	$15,407.6	$13,989.4	$16,298.5	$2,309.1
Abatement Control and Compliance	$18,334.0	$22,065.3	$21,753.9	$33,359.0	$11,605.1
Water Quality Monitoring & Analysis TOTAL	$30,701.3	$37,472.9	$35,743.3	$49,657.5	$13,914.2
PERMANENT WORKYEARS					
Coastal Environment Management	79.6	124.0	117.9	146.5	28.6
Water Quality Monitoring & Analysis	156.4	162.5	156.6	156.7	.1
TOTAL PERMANENT WORKYEARS	236.0	286.5	274.5	303.2	28.7
TOTAL WORKYEARS					
Coastal Environment Management	84.3	124.0	123.9	146.5	22.6
Water Quality Monitoring & Analysis	164.6	162.5	162.1	156.7	-5.4
TOTAL WORKYEARS	248.9	286.5	286.0	303.2	17.2

WATER QUALITY

Water Quality Monitoring and Analysis

Budget Request

The Agency requests a total of $49,657,500 supported by 303.2 total workyears for 1991, an increase of $13,914,200 and an increase of 17.2 total workyears from 1990. Of the request, $16,298,500 will be for the Salaries and Expenses appropriation and $33,359,000 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $2,309,100 in the Salaries and Expenses appropriation and an increase of $11,605,300 in the Abatement, Control and Compliance appropriation.

COASTAL ENVIRONMENT MANAGEMENT

1991 Program Request

The Agency requests a total of $34,876,500 and 146.5 total workyears for this program, of which $7,627,600 will be for the Salaries and Expenses appropriation and $27,248,900 will be for the Abatement, Control and Compliance appropriation. This represents increases of $1,814,200 in Salaries and Expenses, $12,009,400 in Abatement, Control and Compliance, and 22.6 in total workyears. The increases reflect increased Headquarters and Regional activities in the National Estuary Program (NEP) projects as 9 of the 16 projects enter the complex environmental characterization and plan development phases; implementation of near coastal waters (NCW) Regional coastal strategies to address major coastal pollution problems; and implementation of the Clean Water Act (CWA) Section 403(c) program strategy for bringing ocean discharge permittees into compliance with 403(c) criteria.

In 1991, Headquarters and the coastal Regions will support 16 estuary projects in the NEP, under CWA Section 320. The Management Conferences for the Buzzards Bay, Narragansett Bay, and Puget Sound projects will complete Comprehensive Conservation and Management Plans (CCMP) and begin implementation by state and local governments. The Long Island Sound, Albemarle-Pamlico Sounds, and San Francisco Bay projects will be in the third phase, CCMP development. The New York-New Jersey Harbor, Delaware Bay, Delaware Inland Bays, Sarasota Bay, Galveston Bay and Santa Monica Bay projects will be in the second phase, problem definition and resource characterization. Projects selected in 1990 will enter the second phase. The NEP action projects to demonstrate innovative clean-up strategies will be completed, evaluated, and shared with other Regions and states.

Headquarters and the Regions will seek to protect all coastal waters and the Great Lakes, through the implementation of Regional coastal strategies developed with the states. These strategies will target geographic areas and/or specific problems based on risk. Emphasis will be on the enhancement of base water programs to address problems and prevent pollution in NCWs. NCW Regional strategies for the Great Lakes will focus on implementation activities related to the Remedial Action Plans and Lakewide Management Plans. Another essential component of the Regional NCW strategies will be demonstration projects supported

by Headquarters to test control and pollution prevention effectiveness. Grants will be provided to state and local governments for selected action demonstrations identified as national priorities in NCW strategies or through the NEP projects.

To respond to needs identified by the Regions and states through the Regional NCW strategies, Headquarters will continue to develop tools and conduct training. A technology transfer initiative will involve base water programs for permitting and enforcement, water quality criteria, and standards. In this initiative, technical assistance will be provided on request to Regional and state staffs to integrate point source, nonpoint source, and water quality planning expertise to address identified NCW problems. Regions IV and VI will oversee the Gulf of Mexico Program and assist in development of a Louisiana coastal restoration study.

In the Section 301(h) programs, Headquarters will continue to support Regions I, II, IX, and X in the preparation of secondary equivalency determinations and permit reissuance activities. Under the Section 403(c) program, Headquarters will increase support to the coastal Regions for the continued implementation of the strategy in the 1989 report to Congress. The goal of the strategy is to bring National Pollutant Discharge Elimination System (NPDES) permittees into compliance with Section 403(c) criteria, and the program includes conducting risk assessments for direct ocean dischargers.

1990 Program

In 1990, the Agency is allocating a total of $21,052,900 supported by 123.9 total workyears for this program, of which $5,813,400 is from the Salaries and Expenses appropriation and $15,239,500 is from the Abatement, Control and Compliance appropriation. The NEP is also supported by $4,755,000 provided in the last year of the CWA Section 205(1) set-aside from the Construction Grants appropriation.

Through the NEP, Headquarters and the coastal Regions will provide support and oversight to twelve estuary projects, including the six initial projects: San Francisco Bay, Albemarle-Pamlico Sounds, Narragansett Bay, Long Island Sound, Puget Sound, and Buzzards Bay. The Buzzards Bay project completes its CCMP by mid-1990 and begins the implementation phase of the program, while the other five projects complete the intensive environmental characterization and begin CCMP development. The six projects selected in 1988 -- New York-New Jersey Harbor, Delaware Bay, Delaware Inland Bays, Sarasota Bay, Galveston Bay, and Santa Monica Bay -- begin the intensive characterization phase. With priority consideration given to project sites referenced in a 1987 CWA amendment, new projects, selected by the Agency on the basis of national significance, are being designated in 1990 to expand geographic coverage, to develop further project expertise, and to further test remedial approaches developed in earlier estuary projects.

For NCW initiatives, the Regions continue working with the states to assess environmental risks in NCWs, select and define priority problems, identify needed enhancements to ongoing programs, and identify and implement innovative abatement and control programs. The Headquarters/Regions' national network to exchange information on NCW problems and management tools links the Chesapeake Bay and Great Lakes programs with the NEP and NCW demonstration projects. Emphasis is on providing technical assistance and training to local project managers.

Regions IV and VI continue support for the Gulf of Mexico Program, including further development of the program's "Framework for Action" and additional monitoring and data collection to assess environmental health and to establish a base for policy/regulatory options.

The Section 301(h) programs of Regions I, II, IX, and X focus on the evaluation of monitoring programs and permit reissuance, following completion of final waiver determinations for the remaining first round applications. The programs include preliminary work for reissuance of permits that expire in 1991 and secondary treatment equivalency determinations, as required. Headquarters will support a study by the National Academy of Science on opportunities to improve wastewater management by urban coastal areas. The coastal Regions' Section 403(c) programs continue efforts to bring NPDES permittees into compliance with Section 403(c) criteria, consistent with the recommendations of the 1989 report to Congress.

1989 Accomplishments

In 1989, the Agency obligated a total of $15,647,100 supported by 84.3 total workyears for this program, of which $4,135,800 was from the Salaries and Expenses appropriation and $11,511,300 was from the Abatement, Control and Compliance appropriation. The NEP was also supported by $4,705,000 provided through the Section 205(1) set-aside from the Construction Grants appropriation.

Through the NEP, Headquarters and the coastal Regions supported twelve estuary projects in 1989. Three of the initial projects were developing their CCMP, and the remaining three of the initial projects were continuing their environmental resources characterization work. The six projects added in 1988 began planning initiative activities, following the state governors' decisions to convene the project Management Conferences. There was an increased emphasis on conducting pollutant load assessments and completion of assessments of status and trends. Priority demonstration plans to implement targeted clean-up strategies in selected estuary projects received assistance using Section 205(1) set-aside resources.

In addition to ongoing estuarine activities, the Regions continued the assessment of NCWs to determine environmental status and water quality trends, and to identify NCWs needing management attention. In a parallel effort, three ongoing pilot projects and three new pilot projects were conducted in coastal and marine areas to demonstrate innovative solutions for identified major environmental problems. Region IV and VI also continued to support development of the "Framework for Action" for the Gulf of Mexico Program to begin resource characterization and assessment activities.

In the Section 301(h) marine discharge programs, Regions I, II, IX, and X completed most first round application waiver decisions by the end of 1989, and waiver recipients began to implement required water quality monitoring programs. The Section 403(c) program's report to Congress by Headquarters included a targeted strategy for bringing NPDES permittees into compliance with ocean discharge criteria. Headquarters also developed a Permit Writer's Guide for use by the coastal Regions and at the local level in conducting Section 403(c) evaluations and addressing point source discharges to NCW.

WATER QUALITY MONITORING AND ANALYSIS

1991 Program Request

The Agency requests a total of $14,781,000 supported by 156.7 total workyears for this program, of which $8,670,900 will be for the Salaries and Expenses appropriation and $6,110,100 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $494,900 for Salaries and Expenses, a decrease of $404,300 for Abatement, Control and Compliance and a decrease of 5.4 workyears. The increase in Salaries and Expenses supports efforts to enhance EPA and state water quality data systems. The decreases reflect completion of initial state 304(l) listing requirements.

Based on previous national and state water quality studies and reports (such as the Section 304(l) and Section 305(b) reports), the program will concentrate on geographic areas where the presence of contaminated sediments, toxics in the water column or bioaccumulative toxics pose the greatest risk to human health and the aquatic environment. EPA will conduct studies and encourage states to evaluate water quality in these areas as well as the sources of pollutants, and develop needed controls to minimize the risks to human health and the aquatic environment. States will be expected to develop total maximum daily loads (TMDLs), wasteload allocations (WLAs) and load allocations (LAs) where water quality-based controls are needed to reduce point and nonpoint source discharges.

Headquarters will develop a final national long-term Monitoring Framework document and related implementation guidance and sponsor a third national monitoring symposium. Headquarters will also sponsor workshops to describe simplified methods that states can use to identify areas where contaminated sediment presents a high-risk, as well as remediation methods states can use at specific sites.

Headquarters will analyze the 1990 state Section 305(b) reports and prepare the national water quality report to Congress. Headquarters will also work closely with Regions and states to develop and implement guidance for preparing the State 1992 Section 305(b) reports.

Headquarters and Regions will continue to strengthen state assessment and monitoring programs and further enhance the Waterbody System by linking it to state Geographic Information Systems and to national water quality data systems operated by other Federal agencies. The Regions will review state workplans and specific water quality assessments and will assist in environmental data management. Audits of state assessment programs will be conducted by the Regions to identify areas for increased efficiencies and other needed improvements.

1990 Program

In 1990, the Agency is allocating a total of $14,690,400 supported by 162.1 total workyears for this program, of which $8,176,000 is from the Salaries and Expenses appropriation and $6,514,400 is from the Abatement, Control and Compliance appropriation.

The program continues a high priority effort to assure effective implementation of Section 304(l) of the Clean Water Act, providing assistance

and oversight in addressing deficiencies in state submissions. Where states fail to act, the Agency is developing and promulgating lists of waters impaired by toxics and developing WLA's for disapproved individual control strategies (ICSs).

The Bioaccumulation Study is being finalized, which will be used along with other information to prepare a surface water risk assessment for pulp and paper companies. The program is developing several guidance documents on how to assess and remediate sediment contamination problems where toxic pollutants are suspected of causing adverse impacts on aquatic life and bioaccumulation problems.

The surface water monitoring program is encouraging states to adopt more cost-effective approaches, such as rapid biological assessments and use of citizen volunteer programs, to enhance and augment state monitoring programs. A series of national and Regional symposia and workshops is being conducted to address nonpoint source pollution monitoring and assessment, estuarine monitoring, sediment contamination and bioaccumulation of pollutants in fish tissue. EPA is also assisting states to monitor toxic pollutants and assess toxicity in the aquatic environment, through workshops and direct involvement in specific projects. States are completing their 1990 Section 305(b) reports. The Agency continues to strengthen state trend assessment and laboratory analysis capabilities and improve water quality data management to enable integration with other data bases. A detailed river network is also being prepared for use in STORET and other data bases.

1989 Accomplishments

In 1989, the Agency obligated a total of $15,054,200 supported by 164.6 total workyears for this program, of which $8,231,500 was from the Salaries and Expenses appropriation and $6,822,700 was from the Abatement, Control and Compliance appropriation.

Headquarters issued proposed and final regulations that governed the Section 304(l) listing of waters impaired by toxic pollutants. To facilitate the development of the state lists and the development of ICSs, Headquarters performed national assessments of toxic problems. Three reports to Congress and a study required by Sections 308(g), 516, 524 and 525 of the Clean Water Act were completed.

Regions reviewed and approved or disapproved state Section 304(l) lists and began the public participation process where needed. Regions continued to assist states in conducting WLAs and other analyses to develop ICSs for controlling toxics dischargers. Regions continued to participate in the National Bioaccumulation Study and, where bioaccumulation problems were discovered, assisted states in developing effective control strategies. A report on the results of the National Bioaccumulation Study was drafted. Two guidance documents were prepared on sediment contamination problems: one outlining methods for assessing contamination and the other describing current EPA statutory authorities and programs for dealing with these problems.

The Regions were responsible for approving or disapproving TMDLs and WLAs developed by states under Section 303(d) and for producing TMDLs/WLAs if states failed to do so.

WATER QUALITY
Municipal Source Control

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Municipal Waste Treatment Facility Construction					
Salaries & Expenses	$20,729.4	$21,029.4	$21,032.3	$20,555.0	$477.3-
Abatement Control and Compliance	$24,338.1	$20,626.0	$20,336.9	$20,442.6	$105.7
TOTAL	$45,067.5	$41,655.4	$41,369.2	$40,997.6	$371.6-
Waste Treatment Operations & Maintenance					
Salaries & Expenses	$1,170.3	$1,521.0	$1,403.2	$1,629.9	$226.7
TOTAL	$1,170.3	$1,521.0	$1,403.2	$1,629.9	$226.7
TOTAL:					
Salaries & Expenses	$21,899.7	$22,550.4	$22,435.5	$22,184.9	$250.6-
Abatement Control and Compliance	$24,338.1	$20,626.0	$20,336.9	$20,442.6	$105.7
Municipal Source Control TOTAL	$46,237.8	$43,176.4	$42,772.4	$42,627.5	$144.9-
PERMANENT WORKYEARS					
Municipal Waste Treatment Facility Construction	391.8	430.0	401.3	387.6	-13.7
Waste Treatment Operations & Maintenance	25.5	31.5	30.6	31.5	.9
TOTAL PERMANENT WORKYEARS	417.3	461.5	431.9	419.1	-12.8
TOTAL WORKYEARS					
Municipal Waste Treatment Facility Construction	422.5	430.0	426.5	387.6	-38.9
Waste Treatment Operations & Maintenance	26.4	31.5	31.5	31.5	
TOTAL WORKYEARS	448.9	461.5	458.0	419.1	-38.9

WATER QUALITY

Municipal Source Control

Budget Request

The Agency requests a total of $42,627,500 supported by 419.1 total workyears for 1991, a decrease of $144,900 and 38.9 total workyears from 1990. Of the request, $22,184,900 will be for the Salaries and Expenses appropriation and $20,442,600 will be for the Abatement, Control and Compliance appropriation, a decrease of $250,600 and an increase of $105,700 respectively.

MUNICIPAL WASTE TREATMENT FACILITY CONSTRUCTION

1991 Program Request

The Agency requests a total of $40,997,600 supported by 387.6 total workyears for this program, of which $20,555,000 will be for the Salaries and Expenses appropriation and $20,442,600 will be for the Abatement, Control and Compliance appropriation. This represents a decrease of 38.9 workyears and $477,300 and an increase of $105,700 respectively. The decrease in workyears reflects reduced workload for the award of construction grants and completed initial State Revolving Loan Fund (SRF) awards for most of the states. The increase in Abatement, Control and Compliance reflects support for major municipal pollution prevention and water conservation initiatives.

In 1991, EPA will continue, in cooperation with states, to manage the implementation and oversight of the SRF program. With 50 SRF programs operating, a high level of effort will be required to provide extensive first round reviews of annual reports, as well as review and approval of more complex SRF financing proposals. The Agency will implement State Funding Study recommendations by promoting state use of alternative financing mechanisms and establishing a national clearinghouse to collect and disseminate information on state and municipal financing issues.

Although funding for the construction grants program ended in 1990, the traditional program management workload of state oversight responsibilities will continue. Regions will be managing a workload of approximately 4,800 active grant projects. Maximum emphasis will be placed on the completion and closeout of grant projects and resolution of audit problems. The funds requested for the Corps of Engineers Interagency Agreement will purchase 250 workyears of effort to provide construction management assistance to EPA and the states. States will continue to manage delegated programs to completion although the adequacy of Section 205(g) fund balances could begin to be a problem in some states. Projects funded under the first and second cycles of the Indian set-aside for projects on Indian reservations and in Alaska Native Villages will be in the active stages of design and construction, requiring significant coordination and negotiation with the Indian Health Service and tribes.

In 1991, the Agency will be implementing initiatives in municipal water pollution prevention, water conservation and technology transfer to assure that the national investment in wastewater treatment infrastructure is protected.

Water pollution prevention strategies and proactive state programs will emphasize preventive measures and support systems encouraging municipalities to maintain compliance and prevent future non-compliance. The Agency will provide $800,000 to support effective on-site operations, maintenance and compliance assistance to operators of small publicly owned treatment works (POTWs). Activities associated with the management of the operator training program are described in the operations and maintenance program element.

The cooperative effort of wastewater treatment and drinking water programs providing financing and technology assistance to small communities will continue. The Agency will be promoting and developing demonstration projects with public/private partnerships to assist municipalities in solving POTW problems. Regions will continue to conduct user charge system reviews to assess the adequacy of user fees to meet costs and ensure permit compliance. In 1991, the Agency will focus on establishing a national ethic of efficient water use, promote overall reduction of the nation's water use on a per capita basis and encourage a significant nationwide increase in the reclamation and reuse of wastewater for various applications.

Headquarters will continue to provide technical guidance and program assistance on sewage sludge management, pretreatment requirements and groundwater contamination from leaky sewers, as well as new technologies such as wetlands treatment systems.

1990 Program

In 1990, the Agency is allocating a total of $41,369,200 supported by 426.5 total workyears for this program, of which $21,032,300 is from the Salaries and Expenses appropriation and $20,336,900 is from the Abatement, Control and Compliance appropriation.

EPA is managing dual wastewater treatment grant programs with emphasis on the prompt completion of active construction grants projects, resolution of audit problems and implementation oversight of SRF programs. The highest program priority in the Regions is to negotiate and award initial SRF grants, as well as conduct first annual program reviews. Regions also maintain essential emphasis on traditional construction grants management activities and are addressing a workload of approximately 5,500 grant projects. As a result of the first funding cycle, funding for 18 Indian tribes and 8 Alaska Native Villages is provided. The $15,500,000 allocated for the Corps of Engineers Interagency Agreement is supporting 250 workyears of effort to provide construction management assistance to EPA and the states. EPA is developing a strategy to deal with the completion of the program including problems introduced as the states deplete 205(g) program grant funds. The strategy will be based on the ongoing partnership among EPA (including the Inspector General and Regions), the Corps of Engineers and the state agencies, and will identify the necessary level and mix of program resources to handle the completion workload.

In 1990, EPA is taking a new direction to prevent pollution and assure protection of the nation's multi-billion dollar infrastructure of major public health and water quality improvements. The Agency is promoting state programs related to municipal water pollution prevention, water conservation and technology transfer. $1,800,000 is targeted for operator training grants to implement state operator training programs to assist small communities. Regions

are providing increased information and assistance to help municipalities address alternative financing methods for wastewater treatment needs. The wastewater treatment and drinking water programs are engaged in a cooperative effort to provide information and assistance on financing and technology to hard-pressed small communities. Headquarters is coordinating research, technology transfer and outreach activities with other agencies and national organizations, including the Small Flows Clearinghouse.

1989 Accomplishments

In 1989, the Agency obligated a total of $45,067,500 supported by 422.5 total workyears for this program, of which $20,729,400 was from the Salaries and Expenses appropriation and $24,338,100 was from the Abatement, Control and Compliance appropriation.

1989 was a critical year for the program with a maximum SRF implementation effort and significant continuing responsibility for the traditional management and oversight of over 6,000 ongoing construction grants projects. Title VI authorized states to request 1989 funds for SRFs and 43 states submitted capitalization grant applications. Thirty-five new SRF programs came on line in 1989. With contractor support, Regions and states received SRF program training, including a series of Letter of Credit seminars to inform the states and financial community how the payment process works.

EPA continued to monitor state delegation status and performed the remaining nondelegated project management responsibilities. The 50 delegated states and Puerto Rico have submitted phase out strategies which describe the work remaining to manage the construction grants program to completion and the human and financial resources required to perform the work. In addition, implementation of new construction grants provisions, including grants to Indian tribes, continued. EPA initiated an Interagency Agreement with the Indian Health Service for assistance in implementing the Indian set-aside grants program. Final Indian program guidance was issued and the Indian Needs Survey Report to Congress was also issued. The $15,300,000 obligated for the Corps of Engineers Interagency Agreement purchased 275 workyears to provide construction management assistance to EPA and the states. The 1988 Needs Survey was completed and planning for the 1990 Needs Survey was initiated.

WASTE TREATMENT OPERATIONS AND MAINTENANCE

1991 Program Request

The Agency requests a total of $1,629,900 supported by 31.5 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $226,700 in the Salaries and Expenses appropriation and no change in workyears. The increase reflects increased personnel and support costs.

In 1991, a national pollution prevention initiative to prevent non-compliance through technical assistance and training will be underway in the operations and maintenance (O&M) program. The $800,000 in grant funds noted in the municipal waster treatment facility construction program above will enable state and EPA Regional staff to provide on-site compliance assistance and

operator training at about 270 minor POTWs. Continued operator training grants assistance to states with comprehensive municipal compliance programs is resulting in significant compliance improvements. As a result of improvements, EPA will continue to provide technical and financial management assistance, and information and guidance will continue to be disseminated to promote more enhanced O&M and operator training activities in states and small communities. Headquarters will issue 104(g) annual guidance and continue to oversee state and Regional operator training programs to address O&M and manpower problems in small communities.

The mission of state 109(b) training centers will be expanded to include comprehensive environmental training. In an Interagency Agreement with the Indian Health Service, EPA is developing a model operator training program in Region VI. The model will be extended to other Regions and coordinated with operator training initiatives for drinking water, furthering our collaborative efforts with small communities.

In 1991, awards for exemplary performance in operations and maintenance, beneficial uses of sludge and pretreatment will continue to be made through the enhanced National and Regional Wastewater Excellence Awards program. Management of Quality Assurance/Quality Control (QA/QC) programs will continue and recommendations for improvements in project performance certification will also continue.

1990 Program

The Agency is allocating a total of $1,403,200 supported by 31.5 total workyears for this program, all of which is from for the Salaries and Expenses appropriation.

Stable staffing, together with the resources allocated to continue operator training grants under the Municipal Waste Treatment Facilities Construction program, will contribute to the development of effective state O&M and operator training programs and support improved minor municipal facilities compliance.

With the $1,800,000 in grant funds noted in the municipal waste treatment facility construction program above, state and EPA Regional staff are continuing to provide on-site compliance assistance and operator training at about 700 minor POTWs. Regional/state operations management evaluations and operator training programs are a key component to the municipal water pollution prevention initiative aimed at preventing noncompliance. In addition to managing operator training grants, Regions are working directly with selected minor facilities that have problems and overseeing project performance certification reviews. Annual guidance on the 104(g) program is being issued and financial management instructor guidance is being implemented. EPA is promoting improved local user charge and financial management systems and identification of O&M compliance problems through effective diagnostic evaluation and laboratory QA/QC programs.

EPA is continuing to recognize superior facilities through enhancements to its National and Regional Wastewater Excellence Awards programs. In addition, the Agency is providing guidance, information and oversight to assist the states and communities to strengthen local O&M programs for improved sludge, toxics, and innovative, alternative and conventional technologies management.

1989 Accomplishments

In 1989, the Agency obligated a total of $1,170,300 supported by 26.4 total workyears for this program, all of which was from the Salaries and Expenses appropriation.

Information and guidance were issued to promote more cost-effective O&M activities funded under Sections 104(g), 106 and 205(g). States and EPA Regions obligated $1,800,000 to provide on-site O&M assistance to approximately 700 facilities and returned 363 to compliance. EPA conducted a program to train on-site inspectors to diagnose and assist in resolution of small communities' financial and user charge system problems where these contribute to O&M and permit compliance problems.

EPA continued the National Wastewater Excellence Awards program which was expanded to recognize exemplary pretreatment programs. The Agency made 70 Regional awards and 22 national awards. Staff reviewed project performance certifications and implemented minor POTW QA/QC programs.

Enforcement

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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WATER QUALITY
Water Quality Enforcement

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Water Quality Enforcement					
Salaries & Expenses	$18,587.7	$18,755.6	$18,989.3	$21,511.4	$2,522.1
Abatement Control and Compliance	$1,875.7	$2,539.9	$2,507.6	$5,979.6	$3,472.0
TOTAL	$20,463.4	$21,295.5	$21,496.9	$27,491.0	$5,994.1
TOTAL:					
Salaries & Expenses	$18,587.7	$18,755.6	$18,989.3	$21,511.4	$2,522.1
Abatement Control and Compliance	$1,875.7	$2,539.9	$2,507.6	$5,979.6	$3,472.0
Water Quality Enforcement TOTAL	$20,463.4	$21,295.5	$21,496.9	$27,491.0	$5,994.1
PERMANENT WORKYEARS					
Water Quality Enforcement	386.6	394.7	375.5	402.7	27.2
TOTAL PERMANENT WORKYEARS	386.6	394.7	375.5	402.7	27.2
TOTAL WORKYEARS					
Water Quality Enforcement	407.5	394.7	394.4	402.7	8.3
TOTAL WORKYEARS	407.5	394.7	394.4	402.7	8.3

WATER QUALITY

Water Quality Enforcement

Budget Request

The Agency requests a total of $27,491,000 supported by 402.7 total workyears for 1991, an increase of $5,994,100 from 1990. Of the request, $21,511,400 will be for the Salaries and Expenses appropriation and $5,979,600 will be for the Abatement, Control and Compliance appropriation, an increase of $2,522,100 for Salaries and Expenses, an increase of $3,472,000 for Abatement, Control and Compliance, and an increase of 8.3 total workyears.

WATER QUALITY ENFORCEMENT

1991 Program Request

The Agency requests a total of $27,491,000 supported by 402.7 total workyears for this program, of which $21,511,400 will be for the Salaries and Expenses appropriation and $5,979,600 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $2,522,100 for the Salaries and Expenses appropriation, an increase of $3,472,000 for the Abatement, Control and Compliance appropriation, and an increase of 8.3 total workyears. The increase for Salaries and Expenses reflects funding of personnel costs. The increase for Abatement, Control and Compliance will support data entry into Permit Compliance System (PCS). The increase in workyears will support pretreatment enforcement where EPA is the control authority.

Since all but 207 municipal facilities are expected to have completed construction to meet final effluent limits by the end of 1990, the Agency will emphasize municipal compliance with final effluent limits in 1991. Municipal Enforcement Program (MEP) activities will focus on quick response time to violations, the relative effectiveness of enforcement responses, and a reduction in significant noncompliance rates for publicly owned treatment works (POTWs) on final effluent limits. A municipal pollution prevention program (MPP) will be implemented which emphasizes pollution prevention through careful screening of constructed, complying POTWs to identify those that show potential for violation in the near future. The MPP will include evaluation criteria sufficient to surface potential problems at POTWs in time to allow correction before violations occur.

In 1991, the goal of the pretreatment enforcement program will be improvements in all 1,500 approved programs. Enforcement actions will be taken based on the new definition for significant noncompliance. Pretreatment compliance inspections will be conducted where programs are not audited, annual reports will be reviewed and POTW performance will be tracked through the Pretreatment Permits and Enforcement Tracking System. EPA will continue to rely on states and approved POTWs to ensure the compliance of industrial users with categorical standards and POTW sludge limits. Where there is no approved program, Regions will emphasize the identification of categorical industrial users and monitor compliance where such industries have been identified.

In 1991, the enforcement program will place a high priority on implementation of the Compliance Monitoring and Enforcement Strategy for Toxics Control. The strategy will establish criteria for the review of compliance data related to toxics violations. EPA will also initiate enforcement of permits for combined sewer overflows and enforcement of sludge requirements in permits.

The use of administrative penalty orders will increase, with about 70 percent of these orders issued as Class 1. Nearly all administrative penalty orders will be accompanied by an administrative compliance order to require correction of the violation. All major and industrial permittees will be inspected, and a timely and appropriate enforcement response will be emphasized in all cases of significant noncompliance.

1990 Program

In 1990, the Agency is allocating a total of $21,496,900 supported by 394.4 total workyears for this program, of which $18,989,300 is from the Salaries and Expenses appropriation and $2,507,600 is from the Abatement, Control and Compliance appropriation.

EPA is monitoring the compliance with schedules of those municipals which have not yet completed construction to meet final effluent limits. The Agency is taking enforcement action where necessary to force compliance with schedules. EPA is also initiating a systematic effort to ensure that those municipals on final effluent limits consistently comply with those limits. For municipals which have completed construction, EPA is assessing reasons for noncompliance identifying the causes and establishing corrective action plans.

EPA is monitoring POTWs to assure adequate implementation of their pretreatment programs and initiating enforcement actions against POTWs that fail to implement approved programs. POTWs are receiving guidance on how to determine the economic benefit industrial users derive from noncompliance for purpose of computing penalties, and workshops are being developed and conducted for POTWs on how to take effective enforcement actions.

EPA and approved states are placing a high priority on monitoring and enforcing toxic permit requirements. The Agency is using both chemical and biological methods to monitor compliance of toxics. Enforcement of toxicity requirements is focusing on identification of causes and expeditious elimination of toxicity using the best available technical knowledge in the scientific community.

EPA is developing an inspection program for monitoring compliance with sludge permit requirements. EPA expects to issue a strategy for the monitoring and enforcement of sludge requirements which addresses reporting, the definition of significant noncompliance and specific enforcement issues.

1989 Accomplishments

In 1989, the Agency obligated a total of $20,463,400 supported by 407.5 total workyears for this program, of which $18,587,700 was from the Salaries and Expenses appropriation and $1,875,700 was from the Abatement, Control and Compliance appropriation.

In 1989, the Agency continued to focus on completing unfinished work for National Municipal Policy (NMP). As of October 1, 1989, 76 percent of the NMP universe had completed construction to comply with final effluent limits -- bringing the overall compliance rate for major municipal facilities to 91 percent. Only 12 of the original 1,478 major NMP facilities were not yet in compliance, on an enforceable schedule or referred for judicial enforcement action. Enforceable construction schedules were established for approximately 67 percent of the 1,269 minor municipal facilities needing schedules.

During 1989, EPA conducted a pretreatment enforcement initiative to ensure that approved POTWs control industrial discharges of toxic wastewater into their sewage treatment systems. Sixty one cities were named in judicial actions and administrative orders seeking penalties for violations. (These actions included 30 EPA administrative penalty orders and 18 EPA referrals.) EPA conducted 305 pretreatment compliance inspections and 406 pretreatment inspection at industrial users and referred a total of 34 pretreatment judicial actions to EPA or the Department of Justice. Additionally, EPA issued 286 administrative orders, including 68 administrative penalty orders for violation of pretreatment requirements.

Enforcement of Section 311 oil and hazardous substance spill requirements included 133 referrals to the U.S. Coast Guard for assessment of civil penalties and 41 administrative actions for violations of Spill Prevention Control Countermeasure plan requirements.

WATER QUALITY
Water Quality Permit Issuance

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Permit Issuance					
Salaries & Expenses	$13,462.3	$13,946.4	$14,993.8	$17,579.5	$2,585.7
Abatement Control and Compliance	$8,076.7	$7,198.4	$7,106.5	$8,047.4	$940.9
TOTAL	$21,539.0	$21,144.8	$22,100.3	$25,626.9	$3,526.6
TOTAL:					
Salaries & Expenses	$13,462.3	$13,946.4	$14,993.8	$17,579.5	$2,585.7
Abatement Control and Compliance	$8,076.7	$7,198.4	$7,106.5	$8,047.4	$940.9
Water Quality Permit Issuance TOTAL	$21,539.0	$21,144.8	$22,100.3	$25,626.9	$3,526.6
PERMANENT WORKYEARS					
Permit Issuance	292.2	340.3	324.2	342.3	18.1
TOTAL PERMANENT WORKYEARS	292.2	340.3	324.2	342.3	18.1
TOTAL WORKYEARS					
Permit Issuance	309.5	340.3	339.7	342.3	2.6
TOTAL WORKYEARS	309.5	340.3	339.7	342.3	2.6

WATER QUALITY

Water Quality Permit Issuance

Budget Request

The Agency requests a total of $25,626,900 supported by 342.3 total workyears for 1991, an increase of $3,526,600 from 1990. Of the request, $17,579,500 will be for the Salaries and Expenses appropriation and $8,047,400 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $2,585,700 in Salaries and Expenses appropriation and an increase of $940,900 in the Abatement, Control and Compliance appropriation and an increase of 2.6 total workyears.

PERMIT ISSUANCE

1991 Program Request

The Agency requests a total of $25,626,900 supported by 342.3 total workyears for this program, of which $17,579,500 will be for the Salaries and Expenses appropriation and $8,047,400 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $2,585,700 in Salaries and Expenses, an increase of $940,900 in Abatement, Control and Compliance and an increase of 2.6 in total workyears. The increase in Salaries and Expenses reflects increased personnel and support costs. The increase in Abatement, Control and Compliance will provide support for near coastal waters permitting and pollution prevention efforts.

EPA will emphasize reissuance of expiring major permits incorporating toxic/toxicity limits and modification of permits incorporating limits based on biomonitoring and/or chemical specific testing. EPA will emphasize issuance of Combined Sewer Overflow (CSO) permits and assist states in implementing the CSO strategies developed in 1990. To protect critical habitats, EPA will strengthen its focus on issuing permits to near coastal water (NCW) discharges of pollutants of concern, especially where CSO or stormwater discharges are problems.

EPA will focus on pollution prevention through reissuance of major municipal permits that include requirements for publicly owned treatment works (POTWs) to assess the need to plan for plant upgrades and expansion. Training modules will encourage consideration of innovative approaches to municipal pollution prevention and assist in developing permit requirements for planning plant upgrades. Pollution prevention will also be a significant part of the NCW activities through increased support of the pretreatment program.

EPA will continue to conduct detailed POTW pretreatment program reviews, with appropriate follow-up, to ensure effective implementation. EPA will assist POTWs to develop/modify local limits to control toxics/hazardous pollutants in accordance with revised pretreatment regulations and to ensure compliance with sludge requirements and water quality-based limits in POTW permits.

EPA will continue to assist states in issuing/modifying toxic/toxicity based permits and will work with states to improve their toxic control programs. The Agency will continue to review state (and Indian tribe) National Pollutant Discharge Elimination System (NPDES) programs and program modifications, with emphasis on general permit authority, and encourage state assumption of sludge permitting programs.

EPA will promulgate NPDES regulations to implement programmatic and other Water Quality Act (WQA) related revisions. EPA will complete the Section 519 Pretreatment and second stormwater reports to Congress.

During FY 1991 EPA will work towards implementing a permit fee for water pollution permits issued to dischargers under the NPDES program. During FY 1990 EPA will attempt to develop the necessary regulations to set up the fee system.

1990 Program

In 1990, the Agency is allocating a total of $22,100,300 supported by 339.7 total workyears for this program, of which $14,993,800 is from the Salaries and Expenses appropriation and $7,106,500 is from the Abatement, Control and Compliance appropriation.

EPA continues to emphasize control of hazardous and toxic pollutants from direct dischargers. EPA gives priority to completing the issuance of Individual Control Strategies (ICSs) to major and minor dischargers listed as required by Section 304(l) of the Clean Water Act (CWA), as amended. Remaining permits are being issued to include toxicity-based or water quality-based limits based on human health protection, toxicity reduction evaluations, revised local pretreatment programs, and/or Best Available Technology for organic chemicals.

EPA continues to review NPDES state program and program modification requests. EPA assists states to develop sludge programs and strengthen their toxic control programs in accordance with action plans.

In 1990, EPA is assisting POTWs to develop/modify local limits to control toxics and hazardous pollutants in accordance with revised pretreatment regulations and as required by ICSs and changes in sludge disposal standards. EPA continues to audit POTWs to evaluate application of categorical standards, local limits and issuance of control mechanisms. Guidance and contract assistance is provided to implement revisions to the general Pretreatment Regulations based on Pretreatment Implementation Review Task Force recommendations; to revise/develop local limits to include additional toxic pollutant limits, including organics; to conduct toxicity reduction evaluations and assess toxicity related spills; and to apply organic chemical categorical pretreatment standards. Workshops and seminars are provided on toxicity testing, biomonitoring, and state/POTW pretreatment implementation.

The Agency will promulgate General Pretreatment Regulation revisions reflecting requirements of the Domestic Sewage Study and stormwater application regulations. EPA is completing the first stormwater report to Congress and is beginning work on stormwater application regulations for moratorium sources.

1989 Accomplishments

In 1989, the Agency obligated a total of $21,539,000 supported by 309.5 total workyears for this program, of which $13,462,300 was from the Salaries and Expenses appropriation and $ 8,076,700 was from the Abatement, Control and Compliance appropriation.

Contract resources were used to develop ICSs, evaluate state toxic control assessments, train Regional and state permit writers, develop local limits and water quality-based limits in POTW permits, conduct audits of approved local and NPDES state pretreatment programs, and develop NPDES programs and program modifications, especially sludge programs. Workshops and seminars were held on pretreatment implementation and various phases of NPDES permitting.

EPA issued a total of 419 major permits, of which 250 were industrial and 168 were municipal. Additionally, a total of 947 minor permits were issued. EPA continued to review state NPDES program requests and program modifications. No full programs were approved, but two states received pretreatment program approval and three received general permitting authority. EPA and pretreatment states performed 356 local pretreatment program audits.

The Agency promulgated regulations covering state Sludge Management Programs and Permit Issuance codification of the 1987 Water Quality Act provisions and CWA Section 304(l); issued a final strategy on controlling CSOs; and proposed rules on stormwater application requirements and the pretreatment regulation revisions reflecting the Domestic Sewage Study.

4. Drinking Water

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DRINKING WATER

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
APPROPRIATION					
Salaries & Expenses	$34,928.8	$39,217.4	$38,851.3	$45,296.3	$6,445.0
Abatement Control and Compliance	$60,568.4	$72,314.6	$71,383.5	$76,463.8	$5,080.3
Research & Development	$11,312.4	$10,867.3	$10,561.5	$10,877.2	$315.7
TOTAL, Drinking Water	$106,809.6	$122,399.3	$120,796.3	$132,637.3	$11,841.0
PERMANENT WORKYEARS	673.8	767.7	743.9	810.2	66.3
TOTAL WORKYEARS	716.0	767.7	768.0	810.2	42.2
OUTLAYS	$111,414.4	$124,177.3	$123,615.1	$133,914.3	$10,299.2
AUTHORIZATION LEVELS	The Safe Drinking Water Act of 1986 reauthorized this program at a level of $199,570.0 for 1989, $199,570.0 for 1990, and $199,570.0 for 1991.				

DRINKING WATER

OVERVIEW AND STRATEGY

EPA's goal, under the Safe Drinking Water Act (SDWA) as amended in 1986, is to assure that public water supplies are free of contaminants that may cause unacceptable health risks and protect ground-water resources by preventing the endangerment of underground sources of drinking water (USDW). EPA pursues a twofold approach, protecting drinking water at the tap and preventing contamination of ground-water sources of drinking water supplies.

The 1986 Amendments expand the Federal role in protecting drinking water at the tap, mandating sweeping changes in nationwide safeguards and new responsibility to enforce them in the event of state inaction. EPA's strategy is to usher in this new, comprehensive level of drinking water protection by maximizing voluntary compliance through a balance of enforcement presence, risk prevention and innovative partnerships. EPA has established its implementation priorities according to the degree of tangible human health risk at stake, focusing on four classes of contaminants with the highest health risks nationwide: microbiological pathogens, lead (and other corrosion by-products), radionuclides and disinfection chemical by-products. Similarly, enforcement priorities, embodied in the definition of PWS Significant Non-Compliance (SNC), are risk based.

EPA is also focusing on the prevention of contamination of valuable/vulnerable ground-water resources by assisting states in developing and implementing comprehensive ground-water protection strategies. These strategies will address both the full range of actual/potential sources of ground-water contamination and provide for wellhead protection activities in the areas around public water systems. In addition, EPA is targeting specific activities to protect drinking water sources from the harmful effects of injection of wastes and other fluids; in particular, EPA is addressing the vast number of diverse "miscellaneous," or Class V, injection wells.

Drinking Water Standard Setting

EPA defines its risk-reduction objectives for drinking water protection through promulgation of National Primary Drinking Water Regulations (NPDWRs). NPDWRs are developed for any contaminants "known or anticipated to occur" in public water systems (PWSs) that may have any adverse human health effects. The SDWA Amendments prescribe a stringent timetable for regulating 83 contaminants referenced in the law, a subsequent triennial cycle for listing and regulating additional contaminants, specific treatment technology requirements and monitoring for unregulated contaminants.

EPA sets standards that entail the full measure of public health protection prescribed by Congress; that is, Maximum Contaminant Levels (MCLs) that represent the level of maximum feasible health protection. Not only does this directly enhance protection at the tap, but also provides a comprehensive array of standards for use as health protection benchmarks in other environmental programs. At the same time, EPA will take into account the potential burden of the wholesale increase in the number of regulatory requirements, building into the standards themselves both flexibility and streamlined administrative

requirements. These standards promote the states' freedom of action within the bounds set by SDWA mandates. The accompanying monitoring and reporting requirements are staggered, giving smaller systems more time to prepare for monitoring and compliance.

PWS Program Implementation

EPA's first priority is to support the expansion of state program capabilities, essential to implement the growing regulatory framework. The critical factor is state participation: under the Federal-state framework established by the SDWA, EPA relies on the states to realize its program objectives. Therefore, it is essential for the states to become agents for change. Not only must the states expand their commitment to broad protection of drinking water supplies, but they must also invest in developing new approaches to interacting with systems and other interested parties in order to increase their effectiveness. First, EPA is pioneering an approach that mobilizes all parties with any stake in safe drinking water (seeking to leverage scarce EPA/state resources) to seek change at the grass-roots level. Second, EPA is emphasizing "marketing" voluntary compliance across the regulated community, focusing on the thousands of small Public Water Systems (PWS) in the PWS regulatory community. EPA is encouraging states to go beyond the task of simply reaching so many systems (in order to prevent a vast number of inadvertent violations), and address the primary causes of system non-compliance (such as customer resistance to higher rates, inadequate facilities and poor training and expertise). This requires institutional innovations and technology transfer. To this end, EPA is sponsoring various demonstrations and initiatives to promote small-systems viability.

States have had notable success in maintaining and increasing systems compliance through their traditional programs, which themselves reflect a balance of preventative measures (regular surveillance of systems operations, review of planned facility changes, operator certification), technical assistance and an enforcement deterrent. Ultimately, however, additional requirements mean increased non-compliance. In the future, EPA will have to establish enforcement priorities on the basis of health risk, focusing on the prevalence of microbiological, lead, radionuclide and by-product contamination. As a first step, EPA has defined the category of SNC, which now governs enforcement priorities, on the basis of health risk. In 1990, EPA is targeting these most serious NPDWR violations, initiating Federal action on all SNC violators that the states have failed to bring into compliance. EPA is also introducing a series of internal reforms and new procedures for EPA/state liaison, aimed at improving PWS enforcement programs.

Underground Injection Control

EPA and 40 state primacy programs will continue to maintain regulatory coverage of 308,000 injection wells. However, EPA and the states will begin to address contamination risks from Class V wells. This category encompasses a wide variety of different well types that resist uniform regulatory treatment. Class V wells range from radioactive waste-disposal wells, service station and industrial drainage and disposal wells, to irrigation return wells. In October 1989, EPA issued a "Shallow Injection Well Program Strategy" outlining an action plan combining traditional regulatory controls (on the highest-risk well categories) with more innovative approaches to foster voluntary control

practices. The strategy entails an analytical process employed by EPA and the states to screen the Class V universe and prescribe appropriate levels or forms of control, based on the level of potential endangerment to ground-water resources. In 1991, implementation will also be guided by the early results of EPA-funded demonstration projects designed to field test the best approaches to Class V controls which were funded in 1990. In 1991 the most intense shallow-well activities are likely to be the closure and enforcement of wells newly defined to be illegal "Class IV" injection wells, pursuant to the Hazardous Waste program's redefinition of the toxicity characteristic for designating waste as hazardous. A critical factor in a shallow well's contamination risk is its influence on USDW, and wellhead protection areas in particular. Therefore, Class V controls play an intrinsic role in the overall ground-water protection program.

Addressing the emerging problem of Class V wells complements and reinforces the Agency's efforts in regulating the principal classes of injection wells. Class II (oil and gas production and storage-related injection wells) compliance evaluations will continue as the remaining states complete their first five-year cycle of Class II file reviews. The program will emphasize both permitting and ensuring compliance with permit and statutory requirements of other UIC categories, particularly Class I and II. Where a state does not or cannot respond to violations in a timely and appropriate manner, EPA will take enforcement action.

Ground-Water Protection

In 1991, EPA will enhance assistance to states in developing and implementing ground-water protection activities that move beyond protection strategies to comprehensive ground-water protection programs. EPA will focus on expanding the capability of states to develop approaches that protect ground water from the total range of actual and potential sources of contamination, including those that are not Federally regulated. State ground-water protection programs will concentrate on integrating state protection efforts with Federal programs to assure compatibility between state and Federal activities. Particular emphasis will be on working with USDA to promote ground-water protection policies and approaches. Additionally, the Agency's ground-water protection program will assist state water agencies in developing hydrogeologic aspects of pesticides management plans. These state plans provide for protection methods tailored to area-specific differences in ground-water vulnerability.

EPA will initiate analysis of major economic sectors in order to identify and assess high risk sources of ground-water contamination that are not currently regulated. The Agency will oversee development and testing of best practices, e.g. siting criteria, technical controls and management practices, to prevent ground-water contamination from those unregulated sources found to be of greatest concern.

A critical component of a state comprehensive ground-water protection program includes activities targeted to high priority ground-water resources. A primary example of this type of targeting is the protection of areas and fields surrounding wells of public water systems, commonly known as wellhead protection. Thus, in 1991, EPA will assist states in developing wellhead protection programs to incorporate their comprehensive ground-water protection programs. The Agency will continue to provide extensive direct assistance to states in the delineation

of wellhead protection areas and work with states in the assessment of specific sources of contamination and the development of risk management strategies. EPA will also support technical assistance projects on specific local issues related to the protection of wellhead areas/wellfields of public water systems. Special emphasis will be given to ensure that priorities and specific activities for controlling high risk Class V underground injection wells are targeted to wellhead protection areas.

In 1991, EPA will also assist states in building and strengthening their capabilities in the area of ground-water information management. EPA will implement a minimum data element set to ensure that ground-water data collected by or on behalf of the Agency is comparable, compatible and readily accessible to regional, state and local managers of ground-water protection programs, as well as to other Federal agencies. A directory of ground-water information will be updated and EPA will continue to facilitate the dissemination and exchange of information with the states on innovative practices and programs in ground-water protection.

Research and Development

In 1991 the Agency will continue to focus transport and fate research on ground-water contamination. Research will emphasize understanding the processes by which the transport of subsurface contamination is facilitated. Research on new approaches to delineate and manage ground-water quality within wellhead protection areas will continue.

The research program will continue to support methods development to detect ground-water contaminants, understand and predict their behavior, evaluate the viability and cost-effectiveness of in-situ restoration as a clean-up alternative, and support UIC regulatory efforts.

The Agency will develop data on the chemistry and toxicology of disinfectants used in place of chlorine, primarily ozone and chloramine and their reaction by-products. In the near future many municipalities will need to begin using ozone and chloramine as well as combinations of the two chemicals for drinking water disinfection. Currently, very little is known about either the spectrum of their by-products during disinfection or the toxicological properties of these chemicals and/or mixtures of chemicals. Research will continue to develop and validate biomarkers to quantify exposure and effects, with particular emphasis placed on the gastro-intestinal tract where the first exposure to chemicals occurs.

Consulting Services

Consulting services are used to supplement existing in-house expertise in the drinking water program. These services are utilized in the development and review of regulations, policy and guidance-documents pertaining to drinking water standards, PWS and UIC program implementation and the identification of emerging waterborne environmental or human health hazards.

DRINKING WATER

PROGRAM ACTIVITIES	ACTUAL 1989	CURRENT ESTIMATE 1990	ESTIMATE 1991	INCREASE+ DECREASE- 1991 VS. 1990
Incremental Outputs				
UIC Permit Determinations				
- for existing and new facilities, by primacy states.....	8,352	5,228	5,228	0
- for existing and new facilities, by EPA.....	625	515	515	0
UIC Mechanical Integrity Testing.....	37,475	28,858	28,858	0
UIC Compliance Review.....	17,125	21,558	21,558	0
PWS Primacy Development Grants to Indian Tribes.	1	2	4	+2
Enforcement Actions - PWS:				
Inspections.....	n/a	n/a	n/a	
Notices of Violation.....	237	427	527	+100
Administrative Orders....	242	186	227	+41
Civil Litigation (new)...	2	3	3	0
Criminal Litigation.....	0	0	0	0
Enforcement Actions - UIC:				
Inspections.....	107,038	72,034	72,034	0
Notices of Violation.....	n/a	n/a	n/a	
Administrative Orders....	122	123	123	0
Civil Litigation (new)...	1	4	4	0
Criminal Litigation.....	0	0	0	0
Cumulative Outputs				
PWS Primacy States.....	54	54	55	+1
UIC Primacy States (full and partial programs)...	33/6	35/5	35/5	0
Designated Sole Source Aquifers.....	52	60	68	+8

Research and Development

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Drinking Water Research

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Scientific Assessment - Drinking Water					
Salaries & Expenses	$404.3	$505.1	$498.4	$663.0	$164.6
Research & Development	$266.1	$267.6	$261.2	$268.2	$7.0
TOTAL	$670.4	$772.7	$759.6	$931.2	$171.6
Monitoring Systems & Quality Assurance - Drinking Water					
Salaries & Expenses	$2,089.4	$2,314.9	$2,387.8	$2,545.2	$157.4
Research & Development	$2,215.8	$1,720.2	$1,698.1	$1,743.5	$45.4
TOTAL	$4,305.2	$4,035.1	$4,085.9	$4,288.7	$202.8
Health Effects - Drinking Water					
Salaries & Expenses	$2,926.0	$3,178.8	$3,154.7	$3,347.6	$192.9
Research & Development	$3,817.8	$3,086.3	$2,959.1	$2,915.6	-$43.5
TOTAL	$6,743.8	$6,265.1	$6,113.8	$6,263.2	$149.4
Environmental Engineering & Technology - Drinking Water					
Salaries & Expenses	$2,846.0	$3,406.0	$3,378.8	$3,483.2	$104.4
Research & Development	$1,836.6	$1,929.9	$1,877.3	$2,128.2	$250.9
TOTAL	$4,682.6	$5,335.9	$5,256.1	$5,611.4	$355.3
Environmental Processes & Effects - Drinking Water					
Salaries & Expenses	$1,678.2	$1,927.8	$1,789.3	$1,925.4	$136.1
Research & Development	$3,176.1	$3,863.3	$3,765.8	$3,821.7	$55.9
TOTAL	$4,854.3	$5,791.1	$5,555.1	$5,747.1	$192.0
TOTAL:					
Salaries & Expenses	$9,943.9	$11,332.6	$11,209.0	$11,964.4	$755.4
Research & Development	$11,312.4	$10,867.3	$10,561.5	$10,877.2	$315.7
Drinking Water Research TOTAL	$21,256.3	$22,199.9	$21,770.5	$22,841.6	$1,071.1
PERMANENT WORKYEARS					
Scientific Assessment - Drinking Water	8.2	8.0	8.0	8.0	0.0
Monitoring Systems & Quality Assurance - Drinking Water	35.3	37.8	39.8	38.8	-1.0
Health Effects - Drinking Water	55.6	58.2	58.2	58.2	0.0

DRINKING WATER
Drinking Water Research

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
Environmental Engineering & Technology - Drinking Water	52.0	56.3	55.3	53.3	-2.0
Environmental Processes & Effects - Drinking Water	28.7	29.2	29.2	27.2	-2.0
TOTAL PERMANENT WORKYEARS	179.8	189.5	190.5	185.5	-5.0
TOTAL WORKYEARS					
Scientific Assessment - Drinking Water	8.4	8.0	8.0	8.0	0.0
Monitoring Systems & Quality Assurance - Drinking Water	35.8	37.8	39.8	38.8	-1.0
Health Effects - Drinking Water	59.3	58.2	58.2	58.2	0.0
Environmental Engineering & Technology - Drinking Water	52.9	56.3	55.3	53.3	-2.0
Environmental Processes & Effects - Drinking Water	29.7	29.2	29.2	27.2	-2.0
TOTAL WORKYEARS	186.1	189.5	190.5	185.5	-5.0

DRINKING WATER

Drinking Water Research

Principal Outputs by Objective

Objective 1: Develop Drinking Water Standards Based on Health Effects Through Risk Assessment Studies

1991:
- o Revise criteria documents on Phase IV and V contaminants and incorporate public comments. (Scientific Assessment)
- o Report on carcinogenic and reproductive effects of chloracedic acids (Health)
- o Report on the feasibility of conducting an epidemiologic study on the chronic effects of using ozone as a disinfectant. (Health)

1990:
- o Develop final risk assessments and criteria documents for Phase II chemicals. (Scientific Assessment)
- o Report on the mechanistic approaches to assess the interactions of drinking water contaminants. (Health)
- o Report on cancer risks associated with disinfection of drinking water (Health)

1989:
- o Developed health advisories and criteria documents. (Scientific Assessment)
- o Report on the carcinogenic and reproductive effects of Disinfectants/by-products. (Health)
- o Report on the target organ toxicity of drinking water contaminants. (Health)
- o Report on the chemistry and toxicology of chlorinated hydroxyfuranones. (Health)

Objective 2: Provide Engineering Technologies and Monitoring Data for Drinking Water Standards

1991:
- o Report on alternative disinfectants/disinfection by-products. (Engineering)
- o Report on disinfection of Legionella and associated bacteria in drinking water. (Engineering)

1990:
- o Develop and verify Legionella inactivation data for public plumbing systems. (Engineering)
- o Report on inactivation of Crytptosporidium oocysts. (Engineering)
- o Report on point-of-entry systems for removal of radon. (Engineering)

1989:
- o Report on radiation methods validation and intercomparison studies program for drinking water radiation quality assurance. (Monitoring)
- o Systems performance procedures for on-site evaluation and certification of drinking water monitoring laboratories. (Monitoring)
- o Report on pilot plant disinfection and disinfection by-products with ozone combined with chloramines and chlorine. (Engineering)

- o Report on treatment techniques to remove radon from small water supplies. (Engineering)
- o Report on lead leaching from water faucets. (Engineering)

Objective 3: Provide Scientific Data and Methods to Protect of Groundwater Resources

1991:
- o Provide report on the sampling variance caused by well construction, materials, and operations. (Monitoring)
- o Evaluate and adapt, where possible, existing oil exploration methods for groundwater monitoring. (Monitoring)

1990:
- o Provide improved methods for predicting contaminant movement and transformation. (Monitoring)
- o Laser-induced fluorescence for monitoring groundwater by fiber optics (Monitoring)
- o Report on the ozonization products in drinking water (Environmental Processes)

1989:
- o Report on sources of variability affecting groundwater monitoring data (Monitoring)
- o Report on fiber optics for monitoring groundwater contaminants (Monitoring)
- o Report on impacts of unregulated sources of groundwater contamination in wellhead protection areas (Environmental Processes)

DRINKING WATER

Drinking Water Research

Budget Request

The Agency requests a total of $22,841,600 supported by 185.5 total workyears for 1991, an increase of $1,071,100 and a decrease of 5.0 in total workyears from 1990. Of the request, $11,964,400 will be for the Salaries and Expenses appropriation and $10,877,200 will be for the Research and Development appropriation, increases of $755,400 and of $315,700, respectively.

Program Objectives

The Drinking Water research program support States and the Office of Drinking Water (ODW) in implementing the Safe Drinking Water Act (SDWA). The research program consists of the following objectives:

Objective 1: Provide Scientific Basis for Drinking Water Standards. Research provides health assessment information to support the Office of Drinking Water in revising regulations to control drinking water contaminants under SDWA. The health research program also assists States in determining the cause of outbreaks from waterborne infectious diseases and assessing the hazard of humans exposure to infectious agents through drinking water.

Objective 2: Provide Engineering Technologies and Monitoring Data for Drinking Water Standards. Research provides analytical procedures to monitor drinking water contaminants. Engineering research evaluates treatment processes and costs to support ODW regulatory decision-making.

Objective 3: Provide Scientific Methods and Data for Protection of Ground-Water Resources. Research provides the scientific basis for the protection of underground drinking water sources to implement Section 1421 and 1414 of the SDWA. Research activities are done in coordination with the Pesticides and Hazardous Waste Programs.

SCIENTIFIC ASSESSMENT

1991 Program Request

The Agency requests a total of $931,200 supported by 8.0 total workyears for this program, of which $663,000 will be for the Salaries and Expenses appropriation and $268,200 will be for the Research and Development appropriation. This represents an increase of $164,600 in the Salaries and Expenses appropriation, increase of $7,000 in the Research and Development appropriation and no change in total workyears. The increase in Salaries and Expenses reflects a general enhancement of the in-house drinking water research program. The increase in the Research and Development appropriation represents an administrative increase.

Provide Scientific Basis for Drinking Water Standards. This program will provide quantitative health risk assessments, from exposure to drinking water contaminants, to develop drinking water standards. Research work includes responding to public comments on specific Phase IV and Phase V chemicals. Support is provided for revising corresponding criteria documents and preparation of final criteria for defined phase VI chemicals. Continued assistance will be given for the promulgation of Phase II & V regulations.

1990 Program

In 1990, the Agency is allocating a total of $759,600 supported by 8.0 total workyears for this program, of which $498,400 is from the Salaries and Expenses appropriation and $261,200 is from the Research and Development appropriation.

In 1990, this program is finalizing disposition of public comments received in the Phase II chemical and assisting the final promulgation of the Phase II regulations. Three Phase four criteria documents and two Phase V are being prepared. 13 chapters quantifying toxicological effects for Phase VI chemicals are being prepared. The program is also continuing to provide technical support to the regions and states.

1989 Accomplishments

In 1989, the Agency obligated a total of $670,400 supported by 8.4 total workyears for this program, of which $404,300 was from the Salaries and Expenses appropriation and $266,100 was from the Research and Development appropriation.

Major accomplishments include finalization of documents on 19 Phase II chemicals, preparation of external review documents for three Phase IV chemicals and risk assessment and criteria documents for seven Phase V chemicals. Quantification of toxicological effects chapters and criteria documents for six specific Phase VI chemicals were also prepared.

MONITORING SYSTEMS AND QUALITY ASSURANCE

1991 Program Request

The Agency requests a total of $4,288,700 supported by 38.8 total workyears for this program, of which $2,545,200 will be for the Salaries and Expenses appropriation and $1,743,500 will be for the Research and Development appropriation. This represents an increase of $157,400 in the Salaries and Expenses appropriation, an increase of $45,400 in the Research and Development appropriation, and an reduction of 1.0 in total workyears. The increase in Salaries and Expenses reflects a general enhancement of the in-house support for the monitoring program. The decrease in workyears reflect a general realignment of agency priorities.

Provide Engineering Technologies and Monitoring Data for Drinking Water Standards. This request will continue quality assurance activities supporting states, regions and other user communities by providing: high-purity chemical, radiochemical and microbiological reference materials, and the transfer of technologies including analytical methods and quality assurance of protocols. Efforts will continue to determine microbial quality of drinking water, methods

for isolation and detection of Giardia, Cryptosporidium and Legionella, and use of other molecular biological techniques to improve and validate microbial analysis and to reduce the cost of testing.

Provide Scientific Methods and Data for Protection of Groundwater Resources. Research will provide both technical information and improved methods for predicting contaminant movement and transformation to better assess human exposure from groundwater contamination. Research will include evaluating, identifying and assessing technologies for improving injection well practices, assessing fluid movement from injection wells and developing laser induced fluorescence for monitoring groundwater by fiber optics. Major emphases will be placed on continuous monitoring and sample extraction devices to improve monitoring in wellhead protection areas, development of database management systems, as well as, geophysical surveys for characterization of injection wells.

1990 Program

In 1990, the Agency is allocating a total of $4,085,900 supported by 39.8 total workyears for this program, of which $2,387,800 is from the Salaries and Expenses appropriation and $1,698,100 is from the Research and Development appropriation.

In 1990, the monitoring program is expediting methods validation work to meet the new drinking water regulations for organic chemical contaminants. The program provides analytical procedures to monitor drinking water contaminants including development of procedures for analysis of radioactive contaminants and improved coliform analysis methods.

1989 Accomplishments

In 1989, the Agency obligated a total of $4,105,200 supported by 35.8 total workyears for its monitoring and quality assurance program in drinking water, of which $2,089,400 was from the Salaries and Expenses appropriation and $2,015,800 was from the Research and Development appropriation.

In support of the revised National Primary Drinking Water Regulations (NPDWR), chemical and microbiological methods were developed and/or standardized for the determination of volatile, semi-volatile, and non volatile organic compounds, coliform bacterial contamination, radionuclides, and groundwater contamination. Inter-laboratory comparisons were performed to assess the performance of chemical microbiological methods for analysis of contaminants regulated under NPDWR and laboratories were certified to do drinking water analysis. Quality assurance support was provided for EPA, State, regional, and contract laboratories.

HEALTH EFFECTS

1991 Program Request

The Agency requests a total of $6,263,200 supported by 58.2 total workyears for this program, of which $3,347,600 will be for the Salaries and Expenses appropriation and $2,915,600 will be for the Research and Development appropriation. This represents an increase of $192,900 and a decrease of $43,500

respectively, and no change in the total workyears. The increase in Salaries and Expenses appropriation reflects a general enhancement of the in-house research program. The decrease in the Research and Development appropriation reflects an administrative adjustment.

Provide Scientific Basis for Drinking Water Standards. The health research program will support the Office of Drinking Water (ODW) in its effort to develop recommended drinking water Maximum Contaminant Level Goals (MCLGs) and MCLs for twelve disinfectants and more than eighteen types of disinfection by-products. In response to the Safe Drinking Water Act Amendments, research will be conducted to isolate, identify, synthesize and characterize the toxicological effects of major disinfectant by-products that present the highest probable health risks.

Research will focus on the effects of disinfectants to be used as an alternative to chlorine, such as ozone and chloramine, individually and in combined mixtures. Research will begin to develop and validate biomarkers to quantify exposure and effects, particularly on the gastrointestinal tract where the first exposure to chemicals occurs.

Risk extrapolation methodology will be developed for determining human exposure to chemical mixtures as they occur in source waters for drinking water. Epidemiology studies will continue to be conducted to determine the association between the use of disinfectants and chronic health effects (cancer and cardiovascular disease).

1990 Program

In 1990, the Agency is allocating a total of $6,113,800 supported by 58.2 total workyears for this program, of which $3,154,700 is from the Salaries and Expenses appropriation and $2,959,100 is from the Research and Development appropriation.

The research program is supporting the Office of Drinking Water's efforts to develop maximum contaminant levels and health advisories for specific chemicals found in drinking water. Research efforts are developing toxicological and epidemiological data to support maximum contaminant level goals and fill gaps for the first set of 83 contaminants for which regulations are required. This includes research on disinfectants, disinfectant by-products and other organic and inorganic contaminants. Other research is being conducted to improve extrapolation methods used in risk assessment.

1989 Accomplishments

In 1989, the Agency obligated a total of $6,743,800 supported by 59.3 total workyears for its monitoring and quality assurance program in drinking water, of which $2,926,000 was from the Salaries and Expenses appropriation and $3,817,800 was from the Research and Development appropriation.

Major research accomplishments were: a report on target organ toxicities for chemicals evaluated for drinking water health advisories; a report on the analysis of non-genotoxic liver cancer from drinking water contaminants and research determining genotoxic effects of organic chemicals in drinking water for incorporation into MCLGs; a report on research that determined target organ

toxicities of disinfectants and disinfectant by-products required under the Safe Drinking Water Act Amendments; and a report on an epidemiological determination of health hazards associated with low-level occurrence of viruses.

ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

1991 Program Request

The Agency requests a total of $5,611,400 supported by 53.3 total workyears for this program, of which $3,483,200 will be for the Salaries and Expenses appropriation and $2,128,200 will be for the Research and Development appropriation. This represents an increase of $104,400 in the Salaries and Expenses appropriation, with an increase of $250,900 in the Research and Development appropriation and a decrease of 2.0 in total workyears. The increase in Salaries and Expenses reflects a general enhancement of in-house support for the engineering programs and the increase in the Research and Development appropriation represents support for the Administrator's pollution prevention initiative. The workyear reduction reflects a general realignment of agency priorities.

Provide Engineering Technologies and Monitoring Data for Drinking Water Standards. This request will evaluate processes for removal of volatile organic compounds (VOCs), pesticides, and radionuclides for setting standards and implementing regulations. Development of new information on treatment systems performances and costs analyses of proposed treatment systems will continue. The request will support evaluation of disinfectants and their by-products and factors contributing to microbial deterioration of water quality in distribution systems. Research emphasizing technologies especially adaptable to small systems will continue as a priority.

The major emphases supporting groundwater research will be in continuous monitoring and sample extraction devices and the development of data base management systems for wellhead protection areas. In addition, research will continue to evaluate the usefulness of geophysical surveys for characterization of injection wells.

1990 Program

In 1990, the Agency is allocating a total of $5,256,100 supported by 55.3 total workyears for this program, of which $3,378,800 is from the Salaries and Expenses appropriation and $1,877,300 is from the Research and Development appropriation.

Research is evaluating treatment processes and costs to support ODW regulatory decision-making. Cost data ares being compiled for unit processes to do cost-effectiveness analyses of proposed treatment systems. Factors which contribute to deterioration of water quality in distribution systems and methods for control are being investigated. Research emphasizing technology particularly adaptable to small systems is also being performed.

1989 Accomplishments

In 1989, the Agency obligated a total of $4,682.600 supported by 52.9 total workyears for this program, of which $2,846,000 was from the Salaries and Expenses appropriation and $1,836,600 was from the Research and Development appropriation.

Significant engineering research accomplishments available to regulators, utilities and the community at large, include: 1) determining the effectiveness of granular activated carbon treatment technology to remove radon from drinking water, 2) report on treatment techniques to remove radon from small water supplies, 3) report on lead leaching from water faucets, and 4) report on determining the conditions for maximum inactivation of the MS2 coliphage virus which are believed to be the conditions necessary for effectively inactivating other similar bacterial viruses.

ENVIRONMENTAL PROCESSES AND EFFECTS

1991 Program Request

The Agency requests a total of $5,751,100 supported by 27.2 total workyears for this program, of which $1,925,400 will be for the Salaries and Expenses appropriation and $3,821,700 will be for the Research and Development appropriation. This represents an increase of $136,100 in the Salaries and Expenses appropriation, and an increase of $55,900 in the Research and Development appropriation. The total workyears are decreased by 2.0 workyears. The increase in Salaries and Expenses reflects the general enhancement of in-house support of the Processes and Effects programs; the increase in the Research and Development appropriation reflects an administrative adjustment.

Provide Scientific Methods and Data for Protection of Ground Water Resources. This program will focus on methods development and studies of surface transport and fate processes. Research studies will be conducted on in-situ aquifer restoration techniques which may potentially lead to a more cost-effective cleanup of aquifers. Coordination with the Hazardous Waste and Pesticides Programs occurs in this area of research.

Research will provide field evaluation of movement and transformation of wastes from underground injection wells. The program will provide technical assistance for the Wellhead Protection Program, major technology transfer programs and support for the Underground Injection Control (UIC) Program.

1990 Program

In 1990, the Agency is allocating a total of $5,555,100 supported by 29.2 total workyears for this program, of which $1,789,300 is from the Salaries and Expenses appropriation and $3,765,800 is from the Research and Development appropriation.

Research is focusing on development and improvement methods to measure key subsurface parameters that influence contaminant behavior as well as methods that predict concentrations of contaminants. The program supports research on bio-transformation for aquifer restoration and cost effectiveness of in-situ aquifer restoration techniques. The Underground Injection Control (UIC) program is

studying the fate and transport of wastes and mechanical integrity of well casings. Research supporting wellhead protection is providing data on assimilative capacity of soils around wells and data necessary to define the area needing protection around the wellhead.

1989 Accomplishments

In 1989, the Agency obligated a total of $4,854,300 supported by 29.7 total workyears for this program, of which $1,678,200 was from the Salaries and Expenses appropriation and $3,176,100 was from the Research and Development appropriation.

The 1989 accomplishments were: 1) report on facilitated transport of organic pollutants with a strong affinity to water, 2) report on in-place restoration of contaminated aquifers, 3) report on methods for determining the mechanical integrity of wells, and 4) a five year research plan for wellhead protection (in collaboration with the Office of Groundwater Protection).

Abatement and Control

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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DRINKING WATER
Drinking Water Criteria, Standards & Guidelines

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Criteria, Standards & Guidelines					
Salaries & Expenses	$4,567.3	$5,243.2	$4,625.7	$4,688.0	$62.3
Abatement Control and Compliance	$7,578.8	$7,027.5	$6,937.9	$6,578.0	-$359.9
TOTAL	$12,146.1	$12,270.7	$11,563.6	$11,266.0	-$297.6
Drinking Water Implementation					
Salaries & Expenses	$2,680.1	$2,927.9	$2,883.8	$3,085.5	$201.7
Abatement Control and Compliance	$2,914.8	$4,764.4	$4,703.6	$5,639.3	$935.7
TOTAL	$5,594.9	$7,692.3	$7,587.4	$8,724.8	$1,137.4
TOTAL:					
Salaries & Expenses	$7,247.4	$8,171.1	$7,509.5	$7,773.5	$264.0
Abatement Control and Compliance	$10,493.6	$11,791.9	$11,641.5	$12,217.3	$575.8
Drinking Water Criteria, Standards & Guidelines TOTAL	$17,741.0	$19,963.0	$19,151.0	$19,990.8	$839.8
PERMANENT WORKYEARS					
Criteria, Standards & Guidelines	69.5	70.5	70.5	71.0	.5
Drinking Water Implementation	40.2	45.9	45.9	45.9	0.0
TOTAL PERMANENT WORKYEARS	109.7	116.4	116.4	116.9	.5
TOTAL WORKYEARS					
Criteria, Standards & Guidelines	76.8	70.5	70.5	71.0	.5
Drinking Water Implementation	41.3	45.9	45.9	45.9	0.0
TOTAL WORKYEARS	118.1	116.4	116.4	116.9	.5

DRINKING WATER

Drinking Water Criteria, Standards and Guidelines

Budget Request

The Agency requests a total of $19,990,800 supported by 116.9 total workyears for 1991, an increase of $839,800 and no change in total workyears from 1990. Of the request $7,773,500 will be for the Salaries and Expenses appropriation and $12,217,300 will be for the Abatement, Control and Compliance appropriation, an increase of $264,000 for Salaries and Expenses and $575,800 for Abatement, Control and Compliance. This represents no change in total workyears from the Salaries and Expenses appropriation, and an increase of 0.5 workyears in the Reregistration and Expedited Processing Revolving Fund.

CRITERIA, STANDARDS AND GUIDELINES

1991 Program Request

The Agency requests a total of $11,266,000 supported by 71.0 total workyears for this program, of which $4,688,000 will be for the Salaries and Expenses appropriation and $6,578,000 will be for the Abatement, Control and Compliance appropriation. Total workyears will include 70.0 from the Salaries and Expenses appropriation and 1.0 from the Reregistration and Expedited Processing Revolving Fund. This represents an increase of $62,300 for Salaries and Expenses, a decrease of $359,900 for Abatement, Control and Compliance, no change in Salaries and Expenses total workyears and an increase of 0.5 workyears from the Reregistration and Expedited Processing Revolving Fund (FIFRA '88). The increase in Salaries and Expenses reflects increased personnel and support costs; the decrease in Abatement, Control and Compliance reflects completion of the National Pesticides Survey fieldwork. The increase in FIFRA workyears will support the increased volume of pesticide reregistration reviews.

In 1991, EPA will continue to define its risk-reduction objectives for drinking water via development of contaminant standards. National Primary Drinking Water Regulations (NPDWRs) promulgated through 1991 will reduce substantial existing health risks from pathogenic organisms, lead and radionuclides. Maximum Contaminant Levels (MCLs) for inorganic and synthetic organic chemicals will prevent additional risks from emerging into significant health hazards. Monitoring for unregulated contaminants, along with extra-regulatory scientific-data assessments (resulting in valuable guidance, such as Health Advisories) complete the framework for averting future risks.

Standards for 38 inorganic and synthetic-organic compounds (I/SOC) will be promulgated in 1991. Standards for radionuclides and the remaining 24 toxic chemical contaminants specified by the Safe Drinking Water Act (SDWA) Amendments will be finalized. A standard for arsenic will be promulgated separately to permit further consideration of the scientific evidence about health effects. Joint Maximum Contaminant Level Goals (MCLG) and NPDWRs for multiple disinfectants and disinfection by-products will be proposed. Setting standards for these set of contaminants will be complex since the potential for chronic toxicity must be carefully weighed against the substantial reduction in risk from

pathogenic microorganisms. Standards will also be proposed for the other chemicals on the 1988 Contaminant Priority List. The second list of regulatory candidates will be published in 1991 in accordance with the statutory deadline under the SDWA.

In 1991 complete results of the National Pesticides Survey will be presented providing a comprehensive picture of the incidence and extent of a wide range of pesticides in drinking water wells. Further analysis will focus on the relations between incidence and potential causal factors. This analysis will provide guidance to the drinking water and pesticide programs, in regulatory considerations. For reregistration activities related to the 1988 Reregistration and Expedited Processing Revolving Fund, trust fund resources will provide drinking water program review of registrant-submitted scientific data that may effect drinking water standards, health advisories and risk assessments. These drinking water benchmarks play a crucial role in pesticide use restrictions to prevent ground-water contamination. Assistance will be provided to the Regions and states on implementation of the Lead Contamination Control Act and reducing risk from radon contamination of drinking water supplies. A 1991 initiative will support the study of drinking water issues at university-based pollution prevention centers. A complementary initiative will support programs on the prevention of lead contamination within distribution systems.

1990 Program

In 1990 the Agency is allocating a total of $11,563,600 supported by 70.5 total workyears for this program, of which $4,625,700 is from the Salaries and Expenses appropriation and $6,937,900 is from the Abatement, Control and Compliance appropriation. Total workyears include 70.0 from the Salaries and Expenses appropriation and 0.5 from the Reregistration and Expedited Processing Revolving Fund.

Regulatory standards proposed in 1990 include rules for radionuclides (including radon) and remaining toxic-chemical compounds specified by the SDWA Amendments. A revised MCLG and NPDWR for lead and corrosion control is being promulgated to address the significant health risks from the presence of lead in drinking water. The Regions and states are being supported to reduce lead in drinking water, with emphasis on lead in school water supplies, as mandated under the Lead Contamination Control Act.

As required by the 1986 SDWA Amendments, the Agency is reviewing information on fluoride to ensure that the MCL promulgated in 1986 reflects current levels of scientific and technical knowledge. In addition, the Agency is coordinating with other Federal agencies to ensure the appropriate incorporation of drinking water standards into their regulations and policies. Agency staff are working with the Department of Housing and Urban Development to incorporate the revised language and practices into their regulation of Federal Housing Administration (FHA) mortgages.

The last samples for the National Pesticide Survey are being collected. Plans for data analysis are being finalized. Analysis of toxicological data in support of the pesticide reregistration process continues in accordance with the accelerated schedule of the 1988 Amendments to FIFRA.

1989 Accomplishments

In 1989, the Agency obligated $12,146,100 supported by 76.8 total workyears for this program, of which $4,567,300 was from the Salaries and Expenses appropriation and $7,578,800 was from the Abatement, Control and Compliance appropriation. Total workyears include 76.7 from the Salaries and Expenses appropriation and 0.1 from the Reregistration and Expedited Processing Revolving Fund.

The Agency proposed MCLGs and NPDWRs for 38 I/SOCs and promulgated the microbiological NPDWRs and the Surface Water Treatment Rules. Specifically, the Surface Water Treatment Rules revise the interim coliform MCL and establish treatment requirements for public water systems with surface water sources. The National Pesticide Survey sampled 840 public and private drinking water wells, analyzing for an array of 127 compounds.

The program conducted a range of activities in support of other legislative mandates. A testing protocol to detect the presence of radon was developed in recognition of the hazards posed by radon contamination of drinking water. A list of drinking water coolers containing lead was distributed and a guidance document to assist States in determining the degree of lead contamination in school drinking water was developed. Pesticide data review began in support of the FIFRA reregistration process. Priority lists were developed in support of FIFRA activities and coordinated to correspond to drinking water regulatory activities.

DRINKING WATER IMPLEMENTATION

1991 Program Request

The Agency requests a total of $8,724,800 supported by 45.9 total workyears for this program, of which $3,085,500 will be for the Salaries and Expenses appropriation and $5,639,300 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $201,700 for Salaries and Expenses and $935,700 for Abatement, Control and Compliance, and no change in total workyears. The increase in Salaries and Expenses reflects increased personnel and support costs. The increase in Abatement, Control and Compliance reflects additional efforts to promote voluntary compliance with wholesale changes to drinking water regulations.

The responsibility for meeting the new challenges of the SDWA Amendments rests with the states. A recent survey shows that states will need to spend an additional $184 million through 1992 for start-up costs to implement new drinking water standards and $152 million annually will be necessary thereafter to comply with the regulations. The Agency will continue its coordinated effort to assist the states in building water programs capacity, including new demands for drinking water protection. The Agency will work with states in developing funding options such as fees, dedicated taxes, bonding, and state revolving funds to support their drinking water programs.

EPA will also intensify its efforts to resolve the problems of small-systems compliance through its ongoing mobilization initiative. Mobilization fosters action-oriented partnerships with all parties with any stake in safe

drinking water. The goal is to expand upon state and Federal efforts in order to realize the human health benefits expected from the 1986 SDWA Amendments. Small systems are the principal implementation hurdle because they typically have low revenues, high fees, poor financial capabilities and a lack of technical knowledge. Over 90% of current violations are attributable to these systems. EPA will work with national non-profit and private organizations to provide technical and managerial assistance and training to owners and operators of these systems. An important theme within this initiative will be to facilitate a public-private partnership to promote simple and affordable treatment technologies for use by small systems. A major task will be to educate the public (especially those served by small systems) in drinking water issues to increase readiness to pay for needed quality improvements. EPA will also target educational efforts to local health officials who are most often involved in local contamination problems. Finally, EPA will work with state and local officials to address the broader issue of institutional change, creating new mechanisms to deal with small systems more effectively. Together, EPA and other parties will try new ways to ensure small-system viability, develop strategies for full-cost pricing and simplify rate increase procedures.

EPA provides program direction for two national programs mandated by the SDWA, Public Water System Supervision (PWS) and Underground Injection Control (UIC). Priorities will focus on facilitating state adoption of PWS program requirements as new drinking water standards are promulgated and enabling states to maintain the lead for implementation. In 1991 the focus will be on timely state incorporation of the Surface Water Treatment and Total Coliform rules, development of implementation plans for the lead and copper rules and adoption of the chemical Maximum Contaminant Levels (MCL). EPA will issue guidance on various implementation issues as they arise. In the UIC program, technical modifications to existing regulations covering mechanical integrity testing and reporting requirements for Class II wells will be promulgated. Guidance on financial responsibility for abandoned wells will be developed.

The Agency will continue implementation of the Shallow Injection Well strategy which combines traditional regulatory efforts with innovative approaches. The program will emphasize integration with the wellhead protection program and with the Resource Conservation and Recovery Act (RCRA) program, whose Toxic Characteristic Leaching Procedure (TCLP) will impact the injection of hazardous waste. Outreach for assistance to Indian tribes will continue in their efforts to qualify for primacy for the public water systems and underground injection control programs.

1990 Program

In 1990, the Agency is allocating a total of $7,587,400 supported by 45.9 total workyears for this program of which $2,883,800 is from the Salaries and Expenses appropriation and $4,703,600 is from the Abatement, Control and Compliance appropriation.

Following promulgation of the revised State primacy regulations early this year, the Agency is developing guidance that outlines the requirements states must meet to maintain primacy. Guidance on variances and exemptions, site-specific compliance decisions, and public notification are also being developed. Outreach to owners and operators, national organizations and states continues for the surface water treatment and total coliform rules. Guidance

to support implementation of these specific rules is being developed. The review of state program revision requests will be coordinated to ensure an expeditious and uniform process. The Agency has held workshops for Regional personnel to educate them on the technical and implementation issues of these new rules.

In 1990, the state program capacity initiative is targeting assistance to ten states for development of their implementation strategies of the 1986 Amendments. These strategies include developing specific funding options appropriate for each state and/or developing an effective communications strategy to increase public knowledge of drinking water issues. The Agency is working with the National Conference of State Legislatures on these issues. As requested, contact will be made with individual state officials. A book of case studies detailing successful creative funding solutions is being published and disseminated.

In support of the needs of small systems, the Agency is sponsoring several pilot projects designed to serve as possible models. These projects include the formation of a cooperative of 11 mobile home park owners to share services and achieve economies of scale from joint purchasing and a compliance improvement project with state, county and state rural water association participation. Six pilot projects are being funded by the private sector to demonstrate affordable effective technologies appropriate for small systems. In addition, outreach activities to establish an informed and supportive public on drinking water issues is continuing. National Drinking Water Week participation is being expanded with increasingly visible corporate sponsorship and additional organizations.

The UIC program has undertaken a major mid-course evaluation of the key control provisions for Class II wells. Revisions in process include regulations to address construction practices for new injection wells; additional guidance to address problem areas such as disposal practices at commercial facilities and procedures for temporarily abandoned wells; and further studies of problems posed by abandoned Class II wells. A regulatory modification to clarify the 1984 rule in such areas as mechanical integrity testing and reporting requirements is being proposed. The Agency is developing and implementing expanded regulatory controls and guidance for high risk class V wells.

The Agency is continuing its outreach to Indian tribes; applications for treatment as States and for development grants are being evaluated. A procedures handbook for both the PWS and UIC programs is being developed to be used in conjunction with workshops to inform tribes of primacy requirements and determining if becoming a primacy agent is beneficial.

1989 Accomplishments

In 1989, the Agency obligated $5,594,900 supported by 41.3 total workyears for this program, of which $2,680,100 was from the Salaries and Expenses appropriation and $2,914,800 was from the Abatement, Control and Compliance appropriation.

Seventeen state primacy revision requests to implement the volatile organic contaminant regulations were reviewed and seven were approved by EPA. Several workshops and conferences on the surface water treatment and total

coliform rules were conducted. A joint study with the Association of State Drinking Water Administrators on the costs of implementing the SDWA amendments was completed. As a result, the strategy to build state capacity was designed.

In the UIC program, a shallow well injection strategy was issued. A mid-course evaluation of Class II injection wells and a study of state financial responsibility practices were initiated.

A four state study on ensuring the future viability of new small water systems was published. Publications on public notification, volatile organic contaminants, and lead were distributed to states, organizations and the general public. The first Indian tribe application for treatment as a State was approved and the first development grant was awarded.

Self assessment manuals and a resource guide were published. These were targeted toward mobile home pakrs systems, homeowner associations, and publicly owned systems.

DRINKING WATER

Drinking Water State Program Resource Assistance

PROGRAM		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
Public Water Systems Supervision Program Grants						
Abatement Control and Compliance		$33,042.8	$39,822.2	$39,311.5	$47,450.0	$8,138.5
	TOTAL	$33,042.8	$39,822.2	$39,311.5	$47,450.0	$8,138.5
Underground Injection Control Program Grants						
Abatement Control and Compliance		$10,120.3	$11,322.2	$11,177.8	$10,500.0	-$677.8
	TOTAL	$10,120.3	$11,322.2	$11,177.8	$10,500.0	-$677.8
Special Studies & Demonstrations						
Abatement Control and Compliance		$3,000.0	$4,430.5	$4,374.1	$1,000.0	-$3,374.1
	TOTAL	$3,000.0	$4,430.5	$4,374.1	$1,000.0	-$3,374.1
TOTAL:						
Abatement Control and Compliance		$46,163.1	$55,574.9	$54,863.4	$58,950.0	$4,086.6
Drinking Water State Program Resource Assistance	TOTAL	$46,163.1	$55,574.9	$54,863.4	$58,950.0	$4,086.6

DRINKING WATER

Drinking Water State Program Resource Assistance

Budget Request

The Agency requests a total of $58,950,000 for 1991, an increase of $4,086,600 from 1990. All of the request will be for the Abatement, Control and Compliance appropriation.

PUBLIC WATER SYSTEMS SUPERVISION PROGRAM GRANTS

1991 Program Request

The Agency requests a total of $47,450,000 for this program, all of which will be for the Abatement, Control and Compliance appropriation. This represents an increase of $8,138,500. The increase reflects additional program activities resulting from the requirements of the Safe Drinking Water Act (SDWA) Amendments of 1986. EPA Regions will continue to use allotments from the Abatement, Control and Compliance appropriation for direct implementation of the PWS Supervision program in non-primacy states and on Indian lands, including travel.

The Public Water System (PWS) program, at both the Federal and state level, will implement expanded drinking water protection requirements. In order to meet the new demands, the EPA and state programs will assume a new role of "marketing" new requirements to seek maximum voluntary compliance. By working with the drinking water community to educate and inform them about the new requirements, EPA and the states will complement traditional compliance programs (which themselves reflect a balance of risk-prevention measures, technical assistance and enforcement deterrence). Emphasis will be placed on reaching the vast number of small community and non-transient systems, the most troublesome PWSs with respect to current compliance and those least capable of assimilating a multitude of new requirements. Discounting any states losing or renouncing PWS primacy, Wyoming will become the lone non-primacy state when Indiana assumes primacy in 1991.

Federal support for state implementation of national standards will be the catalyst for even greater state program expansion. First, increased support to states will leverage greater commitment from state authorities in the form of higher state program budgets, innovative program funding and/or greater regulatory program productivity. Second, these grants will support mobilization and technology-transfer activities at the state level. An important element of this effort will be state-initiated institutional innovations and compliance tools, such as rules to ensure new systems are financially viable and measures to help existing systems find the means to become self-sufficient (via consolidation with larger systems). Finally, the grants will assist states in maintaining compliance with existing program requirements while enforcing the new requirements as they become effective.

1991 marks a turning point for state programs, confronting implementation of the first major risk-reduction provisions. The states will begin to enforce new microbiological monitoring requirements affecting all 200,000 PWSs

nationwide. Systems will be responsible for increased monitoring in the event of coliform detection and for compliance with a new MCL. Increased monitoring will reduce the risk of infectious disease by providing a more accurate measure of systems general microbiological contamination. However, the immediate effect will likely be a larger number of initial violations. Concurrently, states will be implementing the first elements of the surface water treatment rule (SWTR). These include carrying out the task of reviewing 9200 individual surface-source systems and prescribing treatment upgrades, specific treatment performance requirements and compliance schedules. As a result, the risks of a waterborne disease outbreaks will be reduced for 83 million people.

Finally, as the lead regulation becomes effective in late 1991, states will be making the necessary changes to their regulatory authorities, working with the 3200 largest systems to begin the process of monitoring lead concentrations in water delivered to consumers and planning corrective action (e.g., instituting corrosion control measures). States will continue to provide technical assistance and training to schools, day care centers and non-residential buildings to identify and remedy lead contaminated drinking water coolers. Outreach and training activities will be conducted by the states on corrosion control and lead ban requirements.

1990 Program

In 1990, the Agency is allocating a total of $39,311,500 for this program, all of which is from the Abatement, Control and Compliance appropriation.

The grant program supports 54 state primacy programs, three EPA direct implementation programs and programs on Indian lands. EPA Regions use allotments for direct implementation of the PWS programs in non-primacy states and on Indian lands, including travel. States and EPA are engaged in implementing new and revised standards to apply and enforce maximum contaminant levels (MCLs) for microbiological contaminants and the treatment techniques for surface water systems. They are involved in enforcing an array of regulations including eight volatile organic contaminants (VOCs) and certifying state laboratories for these and forthcoming contaminants. Major activities also include the elimination of lead-content plumbing supplies, remedying lead contaminated drinking water in schools and implementation of a lead/corrosion control regulation. Indian tribal authorities with certification for treatment as a state are eligible to administer and enforce substantial elements of a PWS program and are also eligible for PWS grants to develop such programs. Grant funds are used to support EPA direct implementation activities, including travel.

Grants provide basic program operation such as laboratory certification, on-site evaluations and technical assistance, laboratory analysis, sanitary surveys, and compliance and enforcement actions. States and EPA assist communities and systems with continuing incidence of contamination by toxic chemicals and disease outbreaks. States take action against PWSs in violation of regulations. Compliance/enforcement activities are targeted at all systems in violations, with particular emphasis on eliminating all significant non-compliers.

1989 Accomplishments

In 1989, the Agency obligated a total of $33,042,800 for this program, all of which was from the Abatement, Control and Compliance appropriation.

The PWS grant program continued to support the primacy programs of 54 states and territories and EPA direct implementation program activities including analytical services, sanitary surveys, training, disease surveillance, on-site technical activities, and data management. Funds were also used to support EPA direct implementation activities for the drinking water program, including travel associated with these activities.

States supervised compliance with drinking water regulations, revised their legal authorities to accommodate new MCLs, expanded state laboratory certification capability, and provided assistance in monitoring for regulated and unregulated contaminants. States continued the emphasis on system compliance and took action against violations of drinking water standards. States began implementing program changes to accommodate the new MCLs for microbiological contaminants and their SWTR. Enforcement efforts continued on banning lead-content plumbing materials. In addition, states began enforcement of the public notification requirements and MCLs for VOCs. Indiana was awarded a start-up grant to support the primacy-program development, with delegation expected in early 1991. The first Indian tribe to qualify for treatment as a state received a grant to develop a suitable PWS program for primacy designation.

UNDERGROUND INJECTION CONTROL PROGRAM GRANTS

1991 Program Request

The Agency requests a total of $10,500,000 for this program, all of which will be for the Abatement, Control and Compliance appropriation. This represents a decrease of $677,800 from 1990. The decrease reflects no further need to federally support demonstration projects for control of Class V injection practices.

Underground Injection Control (UIC) grants will support programs to protect underground sources of drinking water (USDW) from contamination through underground injection in all 57 states and territories, as well as on Indian lands. Where states and Indian tribal authorities have failed to assume UIC primacy, EPA will use grant allotments to support direct implementation of Federal UIC requirements, including travel.

States and Regions will enhance their Class IV and V well efforts following the Agency Shallow Injection Well Strategy. This strategy, combining traditional regulatory efforts and innovative non-regulatory approaches to protect drinking water sources and other critical ground waters, complements the Agency's Wellhead Protection efforts. EPA's Toxic Characteristic Leaching Procedure (TCLP) rule will have a major impact. Many wells that inject service station, industrial process and radioactive disposal wastes will be reclassified into the banned Class IV category. States will initiate immediate closure, remediation and enforcement actions against these wells. States and Regions will assimilate the

experience of completed and ongoing demonstration projects to promote innovative state solutions and develop geographically tailored best management practices for remaining Class V wells.

States and EPA Regions will continue to permit new Class I and Class II wells and repermit Class I wells. States and Regions continue compliance reviews to ensure that safeguards on all permitted or rule-authorized Class I, II, III, or permitted Class V wells are comprehensively evaluated on a regular basis. These compliance reviews replace the five-year cycle of file reviews. EPA and state programs will implement revisions to existing UIC regulations and programs for Class II wells based on the 1989-1990 mid-course evaluation. In addition, EPA and the states will continue to observe on-site mechanical integrity tests, inspect and review plugged and abandoned wells, review well records, and track compliance with regulatory requirements and permit conditions.

Administrative orders (AOs) and/or legal actions will be initiated by state programs against owners and operators in significant violation of UIC regulatory requirements. This will include preparing public notification of violation and intent to issue AOs, and conducting public hearings.

The grant funds will also support technical assistance to operators, maintain well inventory data, and support regulatory changes to accommodate new EPA requirements and guidelines. The Agency will provide grants to Indian tribes working towards primacy, and will continue to implement the program on Indian lands and in non-primacy states. The Agency may use a portion of the grant funds for travel related to direct implementation activities.

1990 Program

In 1990, the Agency is allocating a total of $11,177,800 for this program, all of which is from the Abatement, Control and Compliance appropriation.

These funds support 35 full and five partial primacy programs to protect USDWs from contamination through underground injection. EPA uses grants to support direct implementation activities for 17 full non-primacy and five partial non-primacy states and Indian lands. A top priority for EPA and the states continues to be permitting of new Class II wells in order to expedite oil and gas production and repermitting of hazardous waste Class I wells. Under existing regulations such as the Agency's TCLP rule and newly issued guidance, EPA is increasing efforts to bring enforcement and/or regulatory action against Class IV and V wells which endanger USDWs serving public water supplies. A one million dollar set-aside is funding demonstration projects selected to provide information to support Class V regulatory and guidance development.

Grants also support surveillance and compliance activities. The programs primary means of surveillance is through field inspections and the review of reports submitted by operators. One important component is periodic testing of the mechanical integrity of injection wells to demonstrate the absence of contamination sources. Where violations are evident, appropriate enforcement actions are being initiated.

During 1990, Indian tribes that are eligible to assume primacy may apply for grants to establish a UIC program. Activities include conducting an inventory to determine the number and types of wells to be regulated and establishing the framework for the permitting and enforcement programs.

1989 Accomplishments

In 1989, the Agency obligated a total of $10,120,300 for this program, all of which was from the Abatement, Control and Compliance appropriation.

Grants supported 35 full and five partial programs. EPA implemented 22 Federal programs supported in part by the grants. The states and EPA completed 8,977 permit determinations for new and existing wells and conducted evaluations to determine if permit requirements were being met. In addition, 37,475 mechanical integrity tests were conducted to ensure the integrity of wells. The states and EPA also focused on compliance activities through increased field inspections and enforcement actions. Other activities included the review of monitoring reports and maintenance of inventory data.

SPECIAL STUDIES AND DEMONSTRATIONS

1991 Program Request

The Agency requests a total of $1,000,000 for this program, all of which will be for the Abatement, Control and Compliance appropriation. This represents a decrease of $3,374,100 from 1990. This decrease reflects the Agency's effort to achieve maximum leverage with limited resources and the expectation that the recipient organizations will secure additional funding through organizational dues, training fees and other mechanisms.

This program supports rural water training and technical assistance to rural water systems. Grassroots training and technical assistance will help owners and operators of rural water systems achieve and maintain compliance with the National Primary Drinking Water Regulations (NPDWRs) as mandated by the SDWA Amendments. To help ensure the delivery of clean, safe drinking water by rural water systems owner/operator training will address the operation and maintenance of small water systems, and wells, distribution and disinfection procedures, monitoring and reporting, record keeping, and water regulations. The goal is to promote system compliance with the NPDWRs by enhancing the system's physical infrastructure and ability to generate new revenue sources.

1990 Program

In 1990, the Agency is allocating a total of $4,374,100 for this program, all of which is from the Abatement, Control and Compliance appropriation.

EPA is funding 35 independent, non-profit state associations covering 36 states through an agreement with the National Rural Water Association (NRWA). These resources support technical assistance to rural water systems in such areas as operations, maintenance, capitalization and management to promote compliance

with the NPDWRs. To be eligible for a grant, state Rural Water Associations must provide direct training and technical seminars to small systems owner/operators and provide certification training in cooperation with state primacy programs.

In 1990, EPA is also funding six independent rural community assistance programs through a grant to the NRCAP. Through site visits to rural communities, personnel from these organizations will determine technical assistance needs and develop appropriate educational programs to achieve the goal of improved compliance.

In addition to supporting the NRWA and NRCAP programs, EPA is funding a pilot program in which approximately ten states are being selected to develop Drinking Water Compliance Assurance Plans. These comprehensive plans will establish a framework in the state to maximize the effectiveness of all parties involved with public water supply by developing action-oriented partnerships, coordinating activities, and leveraging resources to promote public water system compliance. EPA is continuing funding of state training centers to provide drinking water technical assistance training and information directly to state personnel.

1989 Accomplishments

In 1989, the Agency obligated a total of $3,000,000 for this program, all of which was from the Abatement, Control and Compliance appropriation.

The NRWA and its 35 state affiliates conducted a total of 542 technical assistance and training programs including: 301 technical seminars; 154 technical training sessions; 50 jointly sponsored specialized training sessions with other state and Federal agencies; and 37 problem solving sessions. In addition, NRWA affiliates provided a total of 13,346 hours of on-site technical assistance to address individual rural water system problems related to compliance, operations and maintenance, finance and management.

In 1989, EPA supported six RCAP organizations through a grant to the NRCAP. These organizations helped to improve the management capabilities and financial management of 60 small community drinking water systems in 13 states. RCAP projects included an assistance program to help small systems apply for loans and grants, a resource clearinghouse project to compile a manual of all available funds within a state and the development of training information and manuals for small water systems.

DRINKING WATER
Drinking Water Management

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
PROGRAM						
Public Water Systems Supervision Program Assistance						
Salaries & Expenses		$5,098.7	$5,847.6	$6,122.4	$8,065.0	$1,942.6
Abatement Control and Compliance		$5.0	$674.5	$665.9	$10.0	-$655.9
	TOTAL	$5,103.7	$6,522.1	$6,788.3	$8,075.0	$1,286.7
Underground Injection Control Program						
Salaries & Expenses		$5,482.9	$5,989.7	$5,957.1	$7,260.0	$1,302.9
	TOTAL	$5,482.9	$5,989.7	$5,957.1	$7,260.0	$1,302.9
TOTAL:						
Salaries & Expenses		$10,581.6	$11,837.3	$12,079.5	$15,325.0	$3,245.5
Abatement Control and Compliance		$5.0	$674.5	$665.9	$10.0	-$655.9
Drinking Water Management	TOTAL	$10,586.6	$12,511.8	$12,745.4	$15,335.0	$2,589.6
PERMANENT WORKYEARS						
Public Water Systems Supervision Program Assistance		108.3	135.3	126.3	161.3	35.0
Underground Injection Control Program		128.6	145.2	137.2	145.2	8.0
TOTAL PERMANENT WORKYEARS		236.9	280.5	263.5	306.5	43.0
TOTAL WORKYEARS						
Public Water Systems Supervision Program Assistance		117.7	135.3	134.8	161.3	26.5
Underground Injection Control Program		137.1	145.2	145.0	145.2	.2
TOTAL WORKYEARS		254.8	280.5	279.8	306.5	26.7

DRINKING WATER

Drinking Water Management

Budget Request

The Agency requests a total of $15,335,000 supported by 306.3 total workyears for 1991, an increase of $2,589,600 and 26.7 total workyears from 1990. Of the request, $15,325,000 will be for the Salaries and Expenses appropriation and $10,000 will be for the Abatement, Control and Compliance appropriation, an increase of $3,245,000 for the Salaries and Expenses appropriation and 26.7 total workyears and a decrease of $655,900 for the Abatement, Control and Compliance appropriation.

PUBLIC WATER SYSTEMS SUPERVISION PROGRAM ASSISTANCE

1991 Program Request

The Agency requests a total of $8,075,000 supported by 161.3 total workyears for this program, of which $8,065,000 will be for the Salaries and Expenses appropriation and $10,000 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $1,942,600 for Salaries and Expenses, a decrease of $655,900 for Abatement, Control and Compliance and an increase of 26.5 total workyears. The increase in Salaries and Expenses and total workyears will ensure the successful delegation of new regulatory requirements to the states. The decrease in Abatement, Control and Compliance reflects the completion of assistance to Camden, New Jersey and Crawford, Nebraska in response to contamination incidents.

The Regions will continue to supervise the states in implementing the greatly expanded new regulatory framework. In 1991, the states will begin adopting inorganic and synthetic organic contaminant standards. Meanwhile, Regional oversight of state activities will intensify as the program enters the effective period established for the lead/copper rules, filtration/disinfection requirements for surface water systems and revised microbiological contaminant standards. EPA Regions will increase their participation with state counterparts in implementing these high-impact rules, responding to unavoidable demands for EPA involvement and technical assistance on a case-by-case basis. The Regions will expand their laboratory certification program to encompass the full range of regulated and unregulated toxic chemicals, radionuclides, pesticides and microbiological parameters promulgated to date. Where Regions have direct implementation responsibility, including most Indian lands, they will also assume expanded duties.

Some states will experience difficulty in adopting the new provisions and in maintaining primacy of their drinking water programs. Special assistance efforts will be needed for these state programs to enhance implementation. For example, Regions will be prepared to provide state assignees or IPAs to states that need additional help in assimilating the new requirements. If some states give up primacy, the Regions will need to devote resources to direct implementation programs in those states.

Regions will institute new programs to reach and work with the vast numbers of small community and non-transient systems which exhibit the highest rates of noncompliance. Regions will engage not only state governments but also seek to reach local government and health officials to bring yet another influence to bear in promoting advances in drinking water protection. The Regions will implement training programs for trainers of state and local personnel, drinking water associations and drinking water system operators. The Regions will also begin to address the potential risks posed by private wells through this outreach and information transfer program, using the materials and training to inform owners of the risks of drinking water contamination and offer solutions to problems faced by well owners. Finally, the Regional data management responsibility will escalate as a result of increased systems compliance requirements which the states must report.

The Regions will continue to provide states with technical assistance to identify and remedy lead contaminated drinking water in schools, day care centers and non-residential buildings. Pollution prevention efforts will include outreach and training activities to ban lead content in plumbing supplies, to control corrosion, and educate the public on lead hazards in drinking water.

1990 Program

In 1990, the Agency is allocating a total of $6,788,300 supported by 134.8 total workyears for this program, of which $6,122,400 is from the Salaries and Expenses appropriation and $665,900 is from the Abatement, Control and Compliance appropriation.

The Regions seek to simultaneously implement a new, comprehensive level of drinking water protection while improving compliance with current standards and monitoring/reporting (M/R) requirements. To reach maximum voluntary compliance with requirements, EPA and the states are required to assume a new role of marketing program requirements. Traditional compliance programs will continue to reflect a balance of preventive technical assistance and enforcement deterrent. In addition, the Agency will mobilize the support of all parties with a stake in safe drinking water. To this end, the Regions are participating in initiatives to expand public education, support state efforts to build program capacity, and reach and enlist support of local health officials and groups with ties to "non-transient" systems. In addition, the Regions are promoting both institutional and technological innovations to deal with the most intractable compliance problems, which are among small systems.

State adoption of the legal and administrative authority to enforce a series of new regulations is essential to attaining health risk reduction for public water supplies. EPA Regions are working closely with the states in updating a variety of authorities and practices and providing continued oversight of adopted requirements including fluoride, volatile organic contaminants (VOCs), public notification requirements, and prohibitions of lead-content plumbing materials. States are in the process of adopting Maximum Contaminant Levels (MCLs) for microbiological contaminants and filtration and disinfection requirements for public water systems using surface water sources. As community and "non-transient" water systems take on an extensive monitoring program for both regulated and unregulated contaminants, the Regions are increasing their programs for expanded laboratory certification.

In response to drinking water contamination in Crawford, Nebraska, and Camden, New Jersey, the respective EPA Regions are providing oversight and technical assistance to clean up contaminated drinking water supplies. The Regions are reviewing the first applications by Indian tribal authorities for program primacy and program development grants. With the passage of the Lead Contamination Control Act, the Regions are providing technical support to states to test and remedy lead contaminated drinking water in schools.

1989 Accomplishments

In 1989, the Agency obligated a total of $5,103,700 supported by 117.7 total workyears for this program of which $5,098,700 was from the Salaries and Expenses appropriation and $5,000 was from the Abatement, Control and Compliance appropriation.

During 1989, the Regions worked with states to begin adoption of the surface water treatment rule and revised MCLs for microbiological contaminants. Regions worked with primacy states to incorporate regulatory and monitoring requirements needed to enforce the revised MCLs for VOCs and public notification requirements. Efforts continued in overseeing the prohibition of lead-content plumbing materials and enforcing the fluoride treatment rule.

The program continued to track state compliance monitoring to locate and assist with problem systems and respond to contamination of supplies and waterborne disease outbreaks. The Regions assisted states in adopting new analytical techniques to meet additional laboratory certification requirements. The program continued to provide oversight of basic state program operations and conducted evaluations of state drinking water programs.

The Regions laid the basic groundwork for the process by which Indian tribes could apply for primacy. A procedural handbook was developed for Indian tribes interested in adopting a PWS primacy program. Significant assistance was given to the State of Indiana in moving towards primacy; a start-up grant was awarded to support primacy program development.

UNDERGROUND INJECTION CONTROL PROGRAM

1991 Program Request

The Agency requests a total of $7,260,000 supported by 145.2 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $1,302,900 and an increase of 0.2 in total workyears. The increase in Salaries and Expenses reflects increased personnel and support costs.

In 1991, EPA will continue to implement 22 Federal Underground Injection Control (UIC) programs (17 full and 5 partial) in states and on Indian lands which do not have primacy. Direct implementation activities will include making permit determinations and ensuring compliance with permit conditions and other regulatory requirements. A key objective continues to be more effective compliance and enforcement through greater emphasis on field inspections and surveillance.

In 1991, Regions will address Class V wells in accordance with the Shallow Injection Well Strategy. This comprehensive strategy provides a systematic approach for screening the diverse Class V universe and prescribing different levels of regulatory controls. Injection into certain high-risk wells will be banned as a result of revisions to the Hazardous Waste Toxic Characteristic Leaching Procedure (TCLP). The remaining well groups will be targeted for action based on the contamination risk posed by the wells. Information gained from the Class V demonstration projects will aide in determining whether guidance or regulatory revisions are the most effective method of control. Integration with other programs, such as Wellhead Protection, and the use of other authorities, e.g., the Resource Conservation and Recovery Act (RCRA), will maximize the total environmental benefit.

The Agency will complete its five-year schedule for permitting Class II wells within non-primacy jurisdictions. Regions will be implementing state-specific revisions to compliance evaluation programs; these changes, derived from the mid-course evaluation of Class II oil and gas wells, will impact such areas as the use of cement records as a valid structural integrity test, well construction practices, and the proper closure of abandoned wells. Other direct implementation activities will include management of contracts and grants, data management, and permit tracking.

EPA will be responsible for oversight of 35 full and 5 partial programs. EPA will provide technical assistance to primacy states and ensure that the programs continue to meet the minimum regulatory requirements. The Agency will continue to review state-issued permits to ensure that Federal and state requirements are met. In keeping with the Agency's pollution prevention initiative, the Regions will continue to review Class I hazardous and non-hazardous waste well permits. Other activities will include reviewing state noncompliance reports, compiling annual report data, preparing state-specific guidance documents and administering UIC state grants.

Regions will review applications from Indian tribes to determine their qualifications for treatment as a state and their primacy eligibility. For those Indian tribes applying for primacy, the Agency will provide guidance and grant assistance.

1990 Program

In 1990, the Agency is allocating a total of $5,957,100 supported by 145.0 total workyears for this program, all of which is from the Salaries and Expenses appropriation.

The Agency continues to implement Federal programs in 22 non-primacy states (17 full and 5 partial) and on Indian lands. This work includes making permit determinations and ensuring that well owners and operators adhere to permit conditions and other regulatory requirements. Regions are implementing ambient monitoring requirements for Class I injection wells, as required under the SDWA Amendments of 1986. Regions are providing assistance to Indian tribes working toward primacy.

EPA provides oversight and technical assistance to 35 full and 5 partial primacy state programs. EPA evaluates state efforts to implement their UIC programs and ensure that the minimum regulatory requirements are met. Regions

continue to review Class I, II, III, or permitted Class V state-issued permits to ensure consistency with Federally-approved state programs; these reviews will help to ensure proper enforcement of permit conditions. Regions are also negotiating state grant workplans. Class V activities such as inspections and permitting are continued to reduce potential contamination of underground sources of drinking water.

During 1990, the Agency is completing its mid-course evaluation of the Class II regulatory provisions for mechanical integrity testing procedures, monitoring, reporting and permitting requirements. Regions are overseeing and implementing compliance review strategies to ensure that all permitted or rule-authorized Class I, II, III, or permitted Class V wells receive comprehensive technical/operational evaluations including field inspections on a regular basis. These compliance reviews replace the five-year cycle of file reviews. Regions continue to give permit determinations high priority. On-site inspections are being conducted to ensure compliance with permit conditions. Other activities include developing site-specific guidance, maintaining inventory data, and preparing annual reports.

1989 Accomplishments

In 1989, the Agency obligated a total of $5,482,900 supported by 137.1 total workyears for this program, all of which was from the Salaries and Expenses appropriation.

The Agency implemented Federal programs in 22 states and on Indian lands. Direct implementation activities focused on making permit determinations and ensuring adherence to permit conditions and other regulatory requirements. Regional activities in primacy states included general oversight and technical assistance through the issuance of guidance documents and on-site assistance. Through quarterly reporting data, the Regions reviewed state progress and took necessary actions to ensure proper enforcement.

Regional and state experience in regulating Class II oil and gas wells provided the basis for evaluation by EPA of key Class II wells control provisions. Regions reviewed and revised Class V well inventories and assisted the states in identifying and taking enforcement action against high risk Class V wells and banned Class IV wells. Regions provided assistance to Indian tribes working toward primacy as authorized by the SDWA Amendments.

DRINKING WATER
Ground-Water Protection

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Ground-Water Protection - FIFRA Fund					
Salaries & Expenses	$3,744.9	$4,342.0	$4,235.7	$5,233.4	$997.7
Abatement Control and Compliance	$3,906.7	$4,273.3	$4,212.7	$5,286.5	$1,073.8
TOTAL	$7,651.6	$8,615.3	$8,448.4	$10,519.9	$2,071.5
TOTAL:					
Salaries & Expenses	$3,744.9	$4,342.0	$4,235.7	$5,233.4	$997.7
Abatement Control and Compliance	$3,906.7	$4,273.3	$4,212.7	$5,286.5	$1,073.8
Ground-Water Protection TOTAL	$7,651.6	$8,615.3	$8,448.4	$10,519.9	$2,071.5
PERMANENT WORKYEARS					
Ground-Water Protection - FIFRA Fund	72.1	91.3	89.2	101.3	12.1
TOTAL PERMANENT WORKYEARS	72.1	91.3	89.2	101.3	12.1
TOTAL WORKYEARS					
Ground-Water Protection - FIFRA Fund	76.0	91.3	91.3	101.3	10.0
TOTAL WORKYEARS	76.0	91.3	91.3	101.3	10.0

DRINKING WATER

Ground-Water Protection

Budget Request

The Agency requests a total of $10,519,900 supported by 101.3 total workyears for 1991, an increase of $2,071,000 and 10.0 total workyears from 1990. Of the request, $5,233,400 will be for the Salaries and Expenses appropriation and $5,286,500 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $997,700 in the Salaries and Expenses appropriation and an increase of $1,074,000 in the Abatement, Control and Compliance appropriation. The total workyear increase represents an increase of 0.5 workyears from the Reregistration and Expedited Processing Revolving Fund and 9.5 workyears from the Salaries and Expenses appropriation.

GROUND-WATER PROTECTION

1991 Program Request

The Agency requests a total of $10,519,900 supported by 101.3 total workyears for this program, of which $5,233,400 will be for the Salaries and Expenses appropriation and $5,286,500 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $997,700 for Salaries and Expenses and $1,073,800 for Abatement, Control and Compliance, an increase of 9.5 total workyears from the Salaries and Expenses appropriation and a 0.5 increase in the Reregistration and Expedited Processing Revolving Fund. The increases in Salaries and Expenses and workyears as well as Abatement, Control and Compliance reflect the need for additional resources to assist states in their comprehensive ground-water protection program efforts.

For 1991, EPA will enhance assistance to states in developing and implementing ground-water protection activities that move the states beyond protection strategies to comprehensive ground-water protection programs. The Agency will assist states in such technical ground-water concerns as mapping of aquifer systems, conducting resource assessments, developing source control strategies, and determining vulnerability characteristics. EPA will also institute measures to foster institutional capacity building, such as coordination of state management and control activities with local governments to engender effective implementation of comprehensive ground-water protection programs. In addition, EPA will work with other Federal agencies to ensure consistency and integration in Federal ground-water policies, regulations and guidance.

In 1991, EPA will initiate analyses of major economic sectors in order to identify and assess high risk sources of ground-water contamination that are not currently regulated. Development and testing of best practices, e.g. siting criteria, technical controls and management practices, to prevent ground-water contamination from those unregulated sources found to be of greatest concern will receive Agency support and oversight. Priority for developing and testing best practices will focus on those contaminants frequently located in high risk areas, such as wellhead protection areas (WHPAs). Furthermore, EPA will provide

information and technical expertise to states and will undertake communications efforts seeking adoption of best practices by institutions in each economic sector.

The Agency will continue to assist states in their development of wellhead protection (WHP) programs established in the 1986 Amendments to the Safe Drinking Water Act. This program, which addresses the prevention of contamination of ground-water serving as public water supplies, is an essential component of a state comprehensive ground-water protection program. In addition, EPA will enhance and expand its efforts in WHP demonstration projects which will concentrate on local issues related to the protection of wellhead areas.

During 1991, EPA will seek, test and refine additional environmental indicators for ground-water protection. Other new initiatives will include the establishment of an acquisition system, with the Office of Information Resources Management, to provide states with commonly requested data currently retained by other Federal agencies. EPA will update both a directory of ground-water information systems and a catalogue of data-bases related to ground-water protection. In addition to expanding its data collection efforts, the Agency will strengthen its capacity to disseminate and promote the exchange of information through the use of videos, pamphlets, workshops and conferences.

EPA will maintain its efforts in Sole Source Aquifer (SSA) designations. The Agency will also continue to review projects financially assisted by the Federal government on or near designated SSAs.

For activities related to the 1988 Federal Insecticide, Fungicide and Rodenticide Act amendments, additional workyears will support hydrogeological and related technical assistance in the pesticide registration process.

1990 Program

In 1990, the Agency is allocating a total of $8,448,400 supported by 91.3 workyears for this program, of which $4,235,700 is from the Salaries and Expenses appropriation and $4,212,700 is from the Abatement, Control and Compliance appropriation. Total workyears include 90.8 from the Salaries and Expenses appropriation and 0.5 from the Registration and Expedited Processing Revolving Fund.

EPA is supporting state efforts in developing comprehensive ground-water programs as a mechanism to provide the states with a framework to prioritize and integrate their efforts to manage and control actual and potential sources of contamination. Working with the Agency's pesticides program, the ground-water protection program is assisting state water agencies in developing hydrogeologic aspects of pesticides management plans which provide for protection methods tailored to area-specific differences in ground-water vulnerability. These pesticides management plans are an important aspect of a comprehensive approach to the state in managing their ground-water resources.

The Agency is promoting prevention of ground-water contamination by encouraging states to develop and implement wellhead protection (WHP) programs. Support of WHP programs is a central feature of EPA ground-water protection activities. EPA efforts to support WHP programs include assisting states in the delineation of wellhead protection areas (WHPAs) and enhancing state capacity

to both address specific sources of contamination and develop appropriate risk management strategies. Furthermore, EPA is initiating a demonstration program with localities to encourage creative and unique approaches to information management in WHPAs. The Agency is also reviewing, approving, commenting on, and assisting states in revising WHP programs submitted during 1989.

The Agency is fully implementing efforts to ensure that EPA-related ground-water protection projects collect a minimum set of data elements. Other information management activities include the development of methods for translating new and historical ground-water data into an automated form and the continuation of enhancements to STORET and other EPA data-bases. The Agency is enhancing and promoting the use of geographic information systems, particularly in identifying the most critical sources of contamination in WHPAs, and is providing workshops and seminars for state and local officials on the use of these data management tools for ground-water protection.

EPA is responding to petitions for SSA designation and is reviewing Federal financially assisted projects on or near a designated SSA.

EPA is providing needed expertise and technical assistance in the pesticide registration process for new chemicals and/or new uses as mandated in the FIFRA Amendments of 1988.

1989 Accomplishments

In 1989, the Agency obligated a total of $7,651,600 supported by 76.0 total workyears for this program, of which $3,744,900 was from the Salaries and Expenses appropriation and $3,906,700 was from the Abatement, Control and Compliance appropriation.

During 1989, the Agency provide support for states activities in developing and adopting ground-water protection strategies. The Agency completed an assessment of ground-water protection activities carried out by the states and the extent of progress made nationally to achieve ground-water protection through state efforts. Findings were presented at an EPA/state forum addressing the states' capacity to undertake protection programs.

The Agency assisted states in the development of wellhead protection (WHP) programs which mitigate the effects of actual and potential sources of contamination of ground-water resources serving as public water supplies. Assistance to states included technical guidance on the delineation of wellhead protection areas (WHPAs), inventorying contamination sources, and providing technical information on methods for protecting public water wells from a wide variety of sources of contamination. In addition, the Agency received and initiated review and approval processes on some 30 WHP programs submitted by the states in accordance with the June 1989 statutory requirements.

In 1989, the Agency took a major step toward improving ground-water information by requiring that all programs conducted by EPA or on the Agency's behalf collect a minimum set of data elements when monitoring ground water.

The Agency designated additional SSAs in 1989. The number of designated aquifers increased to a total of 52 nationwide by the end of the year.

Enforcement

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DRINKING WATER
Drinking Water Enforcement

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
PROGRAM						
Drinking Water Enforcement						
Salaries & Expenses		$3,411.0	$3,534.4	$3,817.6	$5,000.0	$1,182.4
	TOTAL	$3,411.0	$3,534.4	$3,817.6	$5,000.0	$1,182.4
TOTAL:						
Salaries & Expenses		$3,411.0	$3,534.4	$3,817.6	$5,000.0	$1,182.4
Drinking Water Enforcement	TOTAL	$3,411.0	$3,534.4	$3,817.6	$5,000.0	$1,182.4
PERMANENT WORKYEARS						
Drinking Water Enforcement		75.3	90.0	84.3	100.0	15.7
TOTAL PERMANENT WORKYEARS		75.3	90.0	84.3	100.0	15.7
TOTAL WORKYEARS						
Drinking Water Enforcement		81.0	90.0	90.0	100.0	10.0
TOTAL WORKYEARS		81.0	90.0	90.0	100.0	10.0

DRINKING WATER

Drinking Water Enforcement

Budget Request

The Agency requests a total of $5,000,000 supported by 100.0 total workyears for 1991, an increase of $1,182,400 and 10.0 workyears from 1990. All of the request will be for the Salaries and Expenses appropriation. This represents an increase of $1,182,400.

DRINKING WATER ENFORCEMENT

1991 Program Request

The Agency requests a total of $5,000,000 supported by 100.0 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $1,182,400 and 10.0 total workyears. These increases will bolster regional drinking water enforcement efforts to limit the increase of new violations from new chemical and microbiological regulatory requirements.

Effective enforcement will remain the linchpin of EPA's efforts to implement a new, comprehensive level of drinking water protection mandated by the Safe Drinking Water Act (SDWA). The presence of a credible enforcement deterrent will work to secure the utmost level of voluntary compliance among Public Water Systems (PWSs). In 1991, enforcement priorities will be transformed by the advent of new National Primary Drinking Water Regulations (NPDWR) for two "high risk" contaminants, namely pathogenic microorganisms and lead. While ultimately reducing substantial health risks, the immediate effect of the regulatory changes is likely to be large numbers of violations. A larger Federal enforcement presence in 1991, combined with vigorous EPA/state mobilization efforts to "market" the new requirements, will maximize voluntary compliance. At the same time, 1991 enforcement priorities will be affected by a growing number of serious violations of volatile organic contaminant standards and revised public notice requirements. For the former, 1991 is the deadline for 60,000 small community and non-transient systems to measure their initial compliance status.

In response to the rising tide of new kinds of violations, EPA will establish enforcement priorities on the basis of maximum health-risk payoff. In 1991, EPA will apply a new definition of Significant Non-Compliance (SNC) to assign enforcement priorities among the mix of new and existing standards. Based upon the risk-reduction principles reflected in the current SNC criteria, EPA's new priority scheme will expand enforcement priorities by more clearly defining categories less than "significant" but of serious concern. This gives the Regions and PWS primacy states more flexibility in defining priorities, and therefore enforcement programs can deal more effectively with the influx of new violations. Regions will continue to conduct Administrative Order (AO) hearings and assess penalties for AO noncompliance in conjunction with Regional Counsel.

In the area of Underground Injection Control (UIC) enforcement, EPA will continue to target Class IV and V injection practices identified as posing a substantial threat to underground sources of drinking water (USDW). Class IV wells that pose a threat to USDWs, particularly those which were reclassified according to the recent Toxic Characteristic Leaching Procedure (TCLP) amendments to the RCRA regulations, will be the UIC enforcement priority. In addition, Regional enforcement actions against Class I well operators (waste-disposal injections) will be initiated if they fail to apply for a permit, test for well mechanical integrity, or provide monitoring reports.

1990 Program

In 1990, the Agency is allocating a total of $3,817,600 supported by 90.0 total workyears for this program, all of which is from the Salaries and Expenses appropriation.

In 1990, EPA is targeting the most serious NPDWR violators, initiating Federal action on all systems in SNC that the states have failed to either bring into compliance or to enforce themselves. As a follow up to the enforcement program reviews conducted in 1989, Headquarters is compiling a national report summarizing findings and recommending across-the-board changes in EPA's PWS enforcement efforts. Regions are instituting a regular process of consultation with all PWS primary states on enforcement activities and the need for Federal action. Regions are also working with all primacy states to institute risk-based enforcement strategies using escalating responses geared to the severity and recalcitrance of the non-compliance. EPA will institute and promote organizational reforms among states to increase the prominence of PWS efforts. EPA is also currently re-defining its definition of high-risk NPDWR violations, which in turn designates systems in SNC. The re-definition, a joint Headquarters-Regional effort, will take into account violations by non-transient PWSs. The comprehensive reviews of PWS enforcement have also highlighted opportunities for EPA to improve internal data management procedures for faster, more accurate tracking of priority non-compliance and EPA/state response. Headquarters is developing better guidance on reporting categories and revised verification procedures. Regions will, in turn, devote closer attention to state responses to non-compliance.

UIC enforcement focuses on injectors' regular testing for mechanical integrity and compliance with permit requirements for Class II, III and V wells. The monitoring of Class I disposal wells continues in order to ensure protection of USDWs. Enforcement actions against owners/operators in serious violation will help reduce some of the most substantial health threats to human health and the environment as well as set examples for other well operators to follow. Continued emphasis is on addressing and remedying Class IV and V injection practices identified as posing substantial threats to USDWs.

1989 Accomplishments

In 1989, the Agency obligated a total of $3,411,000 supported by 81.0 total workyears for this program, all of which was from the Salaries and Expenses appropriation.

Regions continued to issue AOs against violators of PWS and UIC program requirements in order to achieve compliance with regulations and standards set

by the Agency. Significant non-compilers remained the enforcement priority although other violators were pursued. Where state action failed to remedy a violation, EPA issued AOs or initiated court action. EPA implemented the new AO compliance tracking system designed to provide information on the status of AOs and the actions taken to return violators to compliance. The Regions assisted Regional Counsels in documenting violations which required new and more stringent enforcement actions and participated in activities related to civil enforcement referral to the Department of Justice.

Less than two percent of community water systems were in SNC with microbiological or turbidity MCLs and/or monitoring and reporting (M/R) requirements and/or total trihalomethane M/R requirements. Approximately 18 percent of community water systems reported some violations with nearly 78 percent of those being M/R violations. The remaining 78 percent of community water systems were in full compliance.

The Regions issued 122 final AOs for UIC violations and 242 enforcement actions against PWS violators.

5. Hazardous Waste

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HAZARDOUS WASTE

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
APPROPRIATION					
Salaries & Expenses	$74,619.6	$79,193.2	$78,044.1	$96,203.4	$18,159.3
Abatement Control and Compliance	$159,121.0	$163,389.8	$160,938.2	$194,599.5	$33,661.3
Research & Development	$28,897.8	$31,204.5	$30,313.7	$26,341.2	-$3,972.5
TOTAL, Hazardous Waste	$262,638.4	$273,787.5	$269,296.0	$317,144.1	$47,848.1
PERMANENT WORKYEARS	1,372.2	1,523.0	1,432.9	1,634.7	201.8
TOTAL WORKYEARS	1,452.3	1,523.0	1,490.1	1,634.7	144.6
OUTLAYS	$253,744.5	$264,578.8	$263,380.1	$307,477.6	$44,097.5
AUTHORIZATION LEVELS	The Solid Waste Disposal Act as amended expired on November 8, 1988. Reauthorization is pending.				

HAZARDOUS WASTE

OVERVIEW AND STRATEGY

The Resource Conservation and Recovery Act (RCRA) of 1976, as revised by the Hazardous and Solid Waste Amendments (HSWA) of 1984, provides the legislative mandate for a nationwide program to protect human health and the environment from the risks of improper management of hazardous and solid wastes. The goals of the Act are: to ensure adequate and safe treatment of hazardous waste through its management from generation through disposal; to ensure adequate and safe management and disposal capacity for solid wastes; and to prevent and detect leakage from underground storage tanks (USTs).

The Emergency Planning and Community Right-to-Know Act, Title III of the Superfund Amendments and Reauthorization Act of 1986, establishes a framework for identification of hazardous chemicals present in communities. This program provides for development of state and local response plans to prevent, protect and inform the public in the event of a chemical release emergency.

The demands on and expectations for EPA's waste management programs continue to rise. During the early 1970's, program direction emphasized identifying and controlling solid waste. The late 1970's and 1980's saw the refinement and expansion of this direction to include "cradle to grave" management of hazardous wastes and states' implementation of Federally-authorized national management standards. In the 1990's, the Agency must increasingly address problems associated with the expanding universes of wastes produced by a growing national economy, including municipal solid waste, medical waste, special large-volume wastes and industrial solid waste. EPA must also continue its work to complete the remaining protective mandates of HSWA hazardous waste requirements, many of which may be subject to new deadlines as a result of citizen suits brought in Federal court.

The Agency's strategy to address these demands and expectations is to: (1) strengthen state relationships by leveraging permitting and enforcement resources to improve hazardous waste program implementation; (2) develop new, and revise existing regulations to address continually evolving program directions; and (3) conduct research, encourage technology development and transfer, and establish outreach programs to provide the scientific program foundation, national information network and public communications capability necessary to successfully conduct a national waste management program.

Leveraging a National Regulatory Program Through the States

The Agency recognizes the essential role of the states in developing, implementing and enforcing a national waste management program, and is providing significant increases in resources to assist the states in fulfilling their growing responsibilities. Success in managing the expanding universe of hazardous, solid, municipal, medical and special wastes depends on a strong Federal/state partnership. The Agency and the states will jointly examine existing state authorities to determine changes necessary to meet national

hazardous waste program requirements. EPA Regions will assist the states in upgrading their program capabilities to meet new and modified Federal standards. The States will continue to develop legislation and regulations to incorporate HSWA provisions and new and revised requirements into their programs.

The permitting program is the backbone of the national hazardous waste management system, upon which depends our ultimate success in achieving the legislative direction envisioned in HSWA -- the protection of our health and environment from the risks of ill-managed wastes. The permitting program will respond to the statutory mandate to issue permits to all operating and closing hazardous waste management facilities. The Agency will increase state resources to make significant progress toward meeting the 1992 storage and treatment facility permitting deadline and will process post-closure permits for land disposal facilities. The Agency and states will continue to modify permits as necessary to address changing regulations, new corrective action provisions, and changes to facility design and practices.

The Agency's concentration on meeting the mandated permitting deadlines and EPA's recent use of corrective action order authorities, have created a rapidly expanding universe of facilities where corrective action requirements have been imposed. The Agency will encourage the states, through HSWA authorization and increased resources targeted in cooperative agreements, to assume the lead for approximately fifty percent of corrective action oversight. EPA will continue to oversee owner/operators' corrective action activities and will tailor its facility oversight to ensure effective owner/operator response. Community outreach activities will maintain continued, informed public involvement in the process of correcting problems at our Nation's hazardous waste facilities.

In 1990 the states assumed the lead in many mandated inspection and enforcement activities -- conducting inspections of Federal and local facilities and follow-up enforcement, which better balanced the state/EPA workload. As new wastes are brought into the regulatory universe -- mixed waste, mining waste, hazardous waste fuel rule, organic toxicity characteristic -- a higher level of state inspection and enforcement activity will be necessary to ensure continued industry compliance. The Agency is increasing state resources for this higher level of state enforcement activity.

Emphasis on non-hazardous waste management activities will continue as Regions and states work to implement revised municipal waste management criteria, and to support the increased national attention to municipal waste recycling and source reduction. The Regions will provide project-specific financial assistance to develop a strong and consistent national effort to attain municipal waste management and reduction goals established in the Agency's Agenda for Action.

In the UST program, the Agency and states will identify and develop common solutions to program implementation problems, which can be applied to improve performance in many state programs. The Agency will develop and test processes for states' use in promoting compliance with and enforcing new UST leak detection, corrective action and financial responsibility requirements. The Agency will ensure that states incorporate these new requirements and will increase prevention program financial assistance.

As the states and local communities move from developing to implementing emergency response plans under the Title III program, the Agency will assist states in developing their capability to enforce the emergency planning and chemical storage and release notification requirements. National guidance, technical assistance and training will highlight enforcement targeting mechanisms and development of the case referral process through state legal systems.

Sustaining a Responsive National Regulatory Program

The hazardous waste regulatory program must continue its work to complete the remaining requirements mandated in HSWA, responding to existing statutory and new court-ordered deadlines. The national program must also respond to the concerns of an increasingly aware and informed public, which expects Agency action on a growing universe of waste management facilities in such diverse areas as municipal solid waste, medical waste and special large volume wastes.

Implementing the legislative intent to identify and bring under management those wastes considered hazardous, the Agency will perform preliminary listing studies and develop regulations to list as hazardous the specific wastes named in HSWA. Also, the Agency will develop the double liner and the hazardous waste leak detection rules to address concerns over the ability of hazardous waste facilities to safely and effectively manage the Nation's hazardous waste. In this regard, Headquarters will prepare technical updates for minimum technology requirements. The Agency will begin development of treatment standards for those wastes listed as hazardous since the enactment of HSWA. The Agency will implement the land disposal restrictions program by processing treatment capacity and no migration petitions. These regulatory efforts will substantially address major HSWA protective mandates to study, identify, list, restrict disposal and manage certain wastes as hazardous.

The Agency will proceed with its efforts to address emerging solid waste management issues of national concern by serving as a technical clearinghouse for municipal solid waste management information, options and guidelines. The Agency will continue to address municipal solid waste source reduction and recycling programs recommended in the Agenda for Action on solid waste. These efforts will include establishing volume and toxicity reduction goals as well as encouraging the initiation of source reduction and recycling programs to meet various state and local needs. Finally, the Agency will expand its municipal solid waste program to address methods for safely and effectively managing municipal waste combustion ash.

The Agency will respond to management concerns in its special waste program by promulgating rules for oil and gas waste and mining waste and will issue a regulatory determination on exempt mineral processing wastes. The Agency will implement the medical waste rule and will complete a required report to Congress on the medical waste demonstration program. Also, the Agency will issue mixed wastes guidance and rules, and conduct a regulatory determination on cement kiln dust. In the international arena, the Agency will review its hazardous waste export program rules to ensure proper disposition of hazardous waste abroad.

Prevention of pollution and minimization of hazardous and solid waste is a national priority into the 1990's. The Agency will promote pollution prevention through specific initiatives, such as encouraging the use of re-mining techniques at abandoned or inactive mine tailing sites. Significant Agency

efforts will be devoted to enhancing outreach and education programs for encouraging industrial source reduction and market-based recycling. Headquarters will reexamine its policies, guidances and regulations and will promote pollution prevention in its permit activities. The UST program will continue its mission to prevent pollution of surface and groundwater due to the leaking of underground storage tanks.

Supporting the Regulatory Program Through Research, Technology Transfer and Public Participation

The research program provides the scientific and technical information and data necessary to support the development of hazardous waste regulations and implementation. Scientific information on the prevention, health risk, monitoring and environmental processes associated with hazardous waste, from generation to disposal, is provided to state and local government, private industry and other decision-makers.

The Agency will conduct research in several areas: alternate technologies, waste characterization and identification, land disposal, incineration, quality assurance, releases, and municipal solid waste. The Agency will provide technology transfer of its research findings to encourage implementation of improved methods and practices. Additional research will be conducted on municipal solid waste, specifically in the area of source reduction. Municipal Solid Waste Research includes the MITE (Municipal Innovative Technology Evaluation) program, which provides demonstration and evaluation of new technologies.

Increased resources will be provided for on-line activation of the RCRA Information System in a number of pilot states. This system will enable the Agency, Regions and the states to better monitor facility progress and identify national, Regional or state trends in hazardous waste management. This improved data collection system will provide the national basis for evaluation of the effectiveness of waste management regulations and development of regulatory improvements.

Utilizing the Private Sector for Essential Consulting Services

The Agency requires private consultants to perform essential support services for which it either does not or is not economically effective to possess the expert, specialized personnel resources, or which are time-critical. The Agency will utilize the expert advisory, research, analytical and assistance services of consultants for development of regulatory impact analyses, for other specialized technical support in developing highly complex regulations, national guidance documents, for functionally specialized technical assistance required for program implementation, and for the development of comprehensive information management systems.

HAZARDOUS WASTE

PROGRAM ACTIVITIES	ACTUAL 1989	CURRENT ESTIMATE 1990	ESTIMATE 1991	INCREASE (+) DECREASE (-) 1991 VS 1990
Regulations				
RCRA Standards	25	43	26	-17
Effl. Gdlns. Data Summary	*	15	3	-12
Proposals	14	26	16	-10
Promulgations	11	17	10	-7
UIC Petition Reviews . . .	40	35	40	+5
Implementation				
Guidance Documents	25	15	11	-4
Reports to Congress	3	5	3	-2
State Authorization (cum.)				
Base Program	45	48	52	+4
HSWA Cluster I . . .	4	34	45	+11
Final Permit Determinations and Closures (Cumulative). .	2,251	2,647	2,797	+150
Ongoing Permit Processing	355	361	1,005	+644
UIC Permit Revisions . . .	75	75	75	0
Enforcement and Corrective Actions				
Inspections	13,182	12,870	13,382	+512
Administrative Orders	1,227	1,291	1,291	0
Civil Litigation . .	187	156	156	0
Criminal Litigation	103	104	132	+28
Corrective Action Facility Assessments	174	107	107	0
Monitoring of Corrective Action Activities	121	280	402	+122
POTW Corrective Measures.	6	6	6	0

* Outputs for the Office of Water's Hazardous Waste regulatory development activities are not available for 1989.

Research and Development

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Hazardous Waste Research

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
			(DOLLARS IN THOUSANDS)		
PROGRAM					
Scientific Assessment - Hazardous Waste					
Salaries & Expenses	$1,124.4	$1,069.6	$1,040.9	$1,222.1	$181.2
Research & Development	$2,235.9	$1,659.7	$1,604.2	$1,648.0	$43.8
TOTAL	$3,360.3	$2,729.3	$2,645.1	$2,870.1	$225.0
Monitoring Systems & Quality Assurance - Hazardous Waste					
Salaries & Expenses	$3,983.1	$3,301.7	$3,257.2	$3,503.6	$246.4
Research & Development	$8,044.1	$8,478.0	$8,250.5	$6,784.2	-$1,466.3
TOTAL	$12,027.2	$11,779.7	$11,507.7	$10,287.8	-$1,219.9
Health Effects - Hazardous Waste					
Salaries & Expenses	$660.3	$667.6	$641.6	$960.9	$319.3
Research & Development	$474.8	$837.0	$807.4	$829.5	$22.1
TOTAL	$1,135.1	$1,504.6	$1,449.0	$1,790.4	$341.4
Environmental Engineering & Technology - Hazardous Waste					
Salaries & Expenses	$5,366.5	$5,315.2	$5,179.9	$5,570.3	$390.4
Research & Development	$11,222.7	$14,092.8	$13,639.5	$12,426.4	-$1,213.1
TOTAL	$16,589.2	$19,408.0	$18,819.4	$17,996.7	-$822.7
Environmental Processes & Effects - Hazardous Waste					
Salaries & Expenses	$3,453.0	$3,366.5	$3,305.0	$3,569.4	$264.4
Research & Development	$4,420.3	$3,675.7	$3,577.0	$3,653.1	$76.1
TOTAL	$7,873.3	$7,042.2	$6,882.0	$7,222.5	$340.5
Technical Information and Liaison - Hazardous Waste					
Research & Development				$1,000.0	$1,000.0
TOTAL				$1,000.0	$1,000.0
Integrated Hazardous Waste Research					
Research & Development	$2,500.0	$2,461.3	$2,435.1		-$2,435.1
TOTAL	$2,500.0	$2,461.3	$2,435.1		-$2,435.1
TOTAL:					
Salaries & Expenses	$14,587.3	$13,720.6	$13,424.6	$14,826.3	$1,401.7
Research & Development	$28,897.8	$31,204.5	$30,313.7	$26,341.2	-$3,972.5
Hazardous Waste Research TOTAL	$43,485.1	$44,925.1	$43,738.3	$41,167.5	-$2,570.8

HAZARDOUS WASTE
Hazardous Waste Research

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)			
PERMANENT WORKYEARS					
Scientific Assessment - Hazardous Waste	12.6	17.4	17.1	17.1	0.0
Monitoring Systems & Quality Assurance - Hazardous Waste	48.7	47.5	47.5	47.5	0.0
Health Effects - Hazardous Waste	11.3	12.0	11.6	11.6	0.0
Environmental Engineering & Technology - Hazardous Waste	87.9	89.8	83.7	84.9	1.2
Environmental Processes & Effects - Hazardous Waste	51.5	52.0	51.7	50.0	-1.7
TOTAL PERMANENT WORKYEARS	212.0	218.7	211.6	211.1	-.5
TOTAL WORKYEARS					
Scientific Assessment - Hazardous Waste	14.8	17.4	17.1	17.1	0.0
Monitoring Systems & Quality Assurance - Hazardous Waste	52.4	47.5	47.5	47.5	0.0
Health Effects - Hazardous Waste	11.8	12.0	11.6	11.6	0.0
Environmental Engineering & Technology - Hazardous Waste	93.0	89.8	83.7	84.9	1.2
Environmental Processes & Effects - Hazardous Waste	53.3	52.0	51.7	50.0	-1.7
TOTAL WORKYEARS	225.3	218.7	211.6	211.1	-.5

HAZARDOUS WASTE

Hazardous Waste Research

Principal Outputs by Objective

Objective 1: Develop Data to Support the Use of Alternate Technologies

1991: o Pollution Prevention Case Studies (Engineering)

o Technical Report on Clean Products Studies and Demonstrations (Engineering)

1990: o Waste Minimization Guidance Manuals for Seven Industries (Engineering)

o Technical Report on the Summary of Waste Minimization Evaluations supported by the USEPA (Engineering)

o Report to Congress on Pollution Prevention Research (Engineering)

1989: o Technical Resource Document on the Minimization and Control of Hazardous Waste Combustion By-Products (Engineering)

Objective 2: Develop and Evaluate Tests and Procedures for Conducting Risk Assessments

1991: o 50-60 Health and Environmental Effect Documents (Sci. Assessment)

o Approximately 30 Subchronic Testing Protocols for RCRA Chemicals (Sci. Assessment)

o Technical Support Documents for 20-30 RCRA Site-Specific Assessments - e.g., Petitions, ACLs, etc. (Sci. Assessment)

o User's Manual for Two-Dimensional Multiphase Transport Model (Environ. Processes)

o Report on Nitrate Subsurface Contamination Studies (Environ. Processes)

o Report on Methods for Handling Spatial Variability to Subsurface Environments (Environ. Processes)

1990: o Report on Field Evaluation of Unsaturated Zone Model (Environ. Processes)

o Report on Site Specific Multimedia Modeling for Ranking Closure Options at RCRA Land Disposal Operations (Environ. Processes)

o Report on Evaluation of Selected Plants as Cover Crops for HW/SF Sites (Environ. Processes)

- o Beta Test Model of Risk Assistant Expert System (Sci. Assessment)
- o Carcinogenicity Profiles for Third Portion of Land Disposal Ban (Sci. Assessment)
- o 50-60 Health and Environmental Effect Documents (Sci. Assessment)
- o Approximately 30 Subchronic Testing Protocols for RCRA Chemicals (Sci. Assessment)
- o Technical Support Documents for 20-30 RCRA Site-Specific Assessments - e.g., Petitions, ACLs, etc. (Sci. Assessment)

1989:
- o Exposure Factors Handbook (Sci. Assessment)
- o 50-60 Health and Environmental Effect Documents (Sci. Assessment)
- o Approximately 30 Subchronic Testing Protocols for RCRA Chemicals (Sci. Assessment)
- o Technical Support Documents for 20-30 RCRA Site-Specific Assessments - e.g., Petitions, ACLs, etc. (Sci. Assessment)
- o Report on Quantification of Prediction Uncertainty Associated with Surface Water Quality Models (Sci. Assessment)
- o Test and Update PC Module for Cure Data Base (Sci. Assessment)
- o Prototype of Risk Assistant Expert System for Exposure/Risk Assessment at Specific Sites (Jointly Funded, Hazardous Waste and Superfund) (Sci. Assessment)
- o Report on Evaluation of Source Term Initial Conditions for Modeling Leachate Migration from Landfills (Environ. Processes)
- o Report on Reliability of Ground-Water Solute Transport Models and Application of Stochastic Theories to Predict Dispersion (Environ. Processes)
- o Report on Treatability Potential for EPA Listed Hazardous Wastes in Soils (Environ. Processes)

Objective 3: Conduct Assessment and Control Research to Control Dioxin

1990:
- o Report: Kinetics and Toxicity Studies in Monkeys Exposed to TCDD (Sci. Assessment)

1989:
- o Reports on Soil Ingestion Study, and Estimation of Soil Ingestion in Children and Adults (Scientific Assessment)
- o Report on Plant Uptake of Dioxin (Envir. Processes)
- o Photodegradation Evaluation of Dioxin in Soils (Envir. Processes)

Objective 4: Develop Procedures to Identify and Measure Chemicals in Wastes

1991: o Application of Borehole Geophysics in Waste Site Monitoring (Monitoring)

1990: o Report on Research Statistics, Geostatistics, and Chemometrics (Monitoring)

1989: o Development of Automated Expert Systems for Determining Location Standards for Subtitle-D Facilities in Wet Environments (Monitor.)

Objective 5: Develop Data to Support Implementation of the Land Disposal Regulations

1990: o Guidance Documents on the Design and Operation of Landfills and Surface Impoundments (Engineering)

Objective 6: Develop Data to Support Implementation of the Incineration Regulations

1991: o Report on Pilot-Scale Testing done at the IRF (Engineering)

1990: o Reports on OSW Methodology for Multi-Media Risk Assessment for Municipal Waste Combustors (Sci. Assessment)

o Document Evaluating the Mutagenicity of Particle Bound Organics found in Incinerator Emissions (Health)

o Technical Resource Document on Minimization and Control of Hazardous Waste Combustion By-Products (Engineering)

o Report on EPA/Environment Canada; RDF Combustion Technology, Environmental Characterization Mid-Connecticut Resource Recovery Facility (Engineering)

1989: o Report on Phase I of Site-Specific Risk Assessment at Rutland, VT (Sci. Assessment)

o Engineering Assessment Report on Hazardous Waste Co-Firing in Industrial Boilers under Nonsteady Operating Conditions (Engineering)

o Municipal Waste Combustion Assessment (Engineering)

Objective 7: Provide Quality Assurance Support to the Hazardous Waste Program

1991: o Comprehensive Soil Sample Preparation Manual for Volatile Organics (Monitoring)

- o Annual Report on Quality Control Samples for RCRA Appendix VIII Chemicals (monitoring)

1990:
- o Summary Report on Quality Assurance Support Including Development of Quality Assurance Materials for Unconventional Matrices (Monitoring)
- o Annual Report on Quality Control Samples for RCRA Appendix VIII Chemicals (Monitoring)

1989:
- o Annual Report on Quality Control Samples for RCRA Appendix VIII Chemicals (Monitoring)

Objective 8: Develop Procedures to Prevent and Contain Hazardous Releases

1991:
- o Final Report on Evaluation of Volumetric Leak Detection for Chemical USTs (Engineering)
- o Final Report on Internal Inspection Protocol and Validation (Engineering)

1990:
- o Guide for Field Screening of Underground Storage Tanks (Monitoring)
- o Report the State of the Art on Internal Tank Inspection Equipment and Procedures (Engineering)
- o Report on Processes Affecting Aquifer Remediation by Pumping (Environ. Processes)

1989:
- o Protocol for Evaluating Pipeline Leak Detection Systems (Engineering)
- o Report on In-Situ Bioremediation of Spills from Underground Storage Tanks (Environ. Processes)

Objective 9: Conduct Research on Municipal Solid Waste

1991:
- o Site-Specific Risk Assessments for Municipal Waste Combustors (Sci. Assessment)
- o Strategy Document for Research on Pharmokinetic Principles for Solid Wastes (Health)

1990:
- o Program existed but outputs were described in other Hazardous Waste Research media objection

1989:
- o Program existed but outputs were described in other Hazardous Waste Research media objection

HAZARDOUS WASTE

Hazardous Waste Research

Budget Request

The Agency requests a total of $41,167,500 supported by 211.1 total workyears for 1991, a decrease of $2,570,800 and a decrease of 0.5 total workyears from 1990. Of the request, $14,826,300 will be for the Salaries and Expenses appropriation and $26,341,200 will be for the Research and Development appropriation. There is an increase of $1,401,700 in Salaries & Expenses and a decrease of $3,972,500 in Research & Development.

Program Objectives

The Resource Conservation and Recovery Act (RCRA) authorizes a regulatory program to identify and manage wastes which pose a substantial hazard to human health or the environment. RCRA also requires the promulgation of standards related to Underground Storage Tank systems for both chemicals and petroleum products. Section 311 of the Clean Water Act also mandates some of the research conducted under this program, specifically the hazardous material release efforts.

Objective 1: Develop Data to Support the Use of Alternative Technologies. Research supporting implemention of RCRA provisions that require the banning of highly hazardous wastes from land disposal. The effectiveness of treatment alternatives and waste altering processes is being evaluated and performance parameters established. Development of technologies to minimize waste is a component of this objective.

Objective 2: Develop and Evaluate Tests and Procedures for Conducting Risk Assessments. Research provides more applicable, less expensive, simpler, and more accurate risk assessment methodologies, as well as actual risk assessments for decision making.

Objective 3: Conduct Assessment and Control Research to Address Dioxin. Research evaluated the potential for human health effects from dioxin in the environment.

Objective 4: Develop Procedures to Characterize Chemicals in Wastes. Research develops and validates the analytical procedures and techniques required to characterize wastes for Sections 3001 and 3013 of RCRA. These are used for listing and other regulatory decisions made by the Office of Solid Waste.

Objective 5: Develop Data to Support the Land Disposal Regulations. Research supports permitting of land disposal and land treatment facilities, and for improvements in operation and design requirements.

Objective 6: Develop Data to Support the Incineration Regulations. Laboratory, pilot and full-scale incineration units are being investigated to determine the performance of, and health effects associated with, a range of thermal treatment devices. Results are used by permitting officials to evaluate permit requests and to monitor compliance with performance requirements. Evaluations of municipal waste combustion processes are conducted.

Objective 7: Provide Quality Assurance Support. A quality assurance program is being conducted to provide a scientific data base of known quality to support RCRA regulatory activities. The program includes a repository of calibration standards, reference materials, and on-site evaluations of contractor laboratories.

Objective 8: Develop Procedures to Prevent and Contain Hazardous Releases. Research addresses requirements established by Section 311 of the Clean Water Act (CWA) and RCRA's Underground Storage Tank (UST) program. Research supporting these programs assesses the most cost-effective technology and scientific techniques available to prevent and control releases of hazardous substances.

Objective 9: Conduct Research on Municipal Solid Waste. The Municipal Innovative Technology Evaluation (MITE) program evaluates new technologies to treat and minimize the volume and effects of municipal solid waste. Municipal waste combustion processes are evaluated. Health risk from combustion emissions and residues are investigated. An expert system is being assembled for use in evaluating Subtitle-D facility locations.

Objective 10: Technical Information and Liaison. Technological findings are transferred to State and local governments and private industry.

Objective 11: Conduct Research for Emergency Planning and Community Right-to-Know. Research will support the implementation of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) on Community Planning and Emergency Right-to-Know. Efforts will focus on development of process measurement and monitoring techniques for prevention of accidental and chronic releases in an effort to help state and local governments, planning authorities, industry and private citizens assess and respond to risks posed by hazardous substance releases.

SCIENTIFIC ASSESSMENT

1991 Program Request

The Agency requests a total of $2,870,100 supported by 17.1 total workyears for this program, of which $1,222,100 will be for the Salaries and Expenses appropriation and $1,648,000 will be for the Research and Development appropriation. This represents an increase from 1990 of $181,200 for the Salaries and Expenses appropriation due to increased personnel and support costs. The increase from 1990 in the Research and Development appropriation is $43,800.

Develop and Evaluate Tests and Procedures for Conducting Risk Assessments. Health and environmental effects documents, reference doses, carcinogenicity profiles and technical evaluations will be provided to support the RCRA listing, permitting and land disposal restriction programs. Work will continue on improving microcomputer assisted risk assessment tools.

Conduct Research on Municipal Solid Waste. Risk assessment on specific waste combustors will be conducted, using the methodology developed in 1990. A report on the comparative risk assessment of municipal waste combustors as compared to other waste treatment technologies will be completed.

1990 Program

In 1990, the Agency is allocating a total of $2,645,100 supported by 17.1 total workyears for this program, of which $1,040,900 is from the Salaries and Expenses appropriation and $1,604,200 is from the Research and Development appropriation.

In 1990, the program is emphasizing the development and evaluation of tests and procedures for conducting risk assessments. Health and Environmental Effects Documents, Reference Doses, and technical evaluations are provided to support the RCRA listing, permitting and land disposal restriction programs. Microcomputer-assisted risk assessment tools are being further developed.

To support the incineration regulations, a comprehensive risk assessment methodology is being provided to the Office of Solid Waste for a multi-media assessment of risks from municipal waste combustion.

1989 Accomplishments

In 1989, the Agency obligated a total of $3,360,300 supported by 14.8 total workyears for this program, of which $1,124,400 was from the Salaries and Expenses appropriation and $2,235,900 was from the Research and Development appropriation.

The 1989 program emphasized the production of health and environmental effects documents for the listing/delisting programs, and Reference Doses for the land disposal restriction program. Work was completed on the determination of patterns of soil ingestion by children for use in exposure assessments. The exposure work was completed for risk assessments of burning contaminated soils in mobile incinerators. Phase I of the site-specific risk assessment at Rutland, Vt., the model municipal waste combustor, was completed.

MONITORING SYSTEMS AND QUALITY ASSURANCE

1991 Program Request

The Agency requests a total of $10,287,800 supported by 47.5 total workyears for this program, of which $3,503,600 will be for the Salaries and Expenses appropriation and $6,784,200 will be for the Research and Development appropriation. This represents an increase from 1990 of $246,400 for the Salaries and Expense appropriation for increased personnel and support costs, with no change in total workyears. The decrease from 1990 of $1,466,300 for the Research and Development appropriation reflects, in part, a shifting of resources for the technology transfer portion of waste identification into the Technical Information and Liaison program element where it more appropriately belongs. Methods work on SW846 has been curtailed and resources for this effort are realigned to other higher Agency priorities. To fund other Agency priorities, reductions in the Research and Development appropriation were also taken from quality assurance support and methods development to monitor underground storage tank releases.

Develop Procedures to Characterize Chemicals in Wastes. Methods will be developed to detect highly toxic wastes in soils and sediments and for detecting organics in the ambient air, near and at waste treatment disposal facilities. Validation and improvement of the methods contained in the Compendium of Analytical Methods to Monitor for Solid Waste (SW-846) continues. These methods are used to determine the composition of wastes, detect trace levels of toxic

constituents, and rapidly screen for hazardous constituents. Automated methods for subsurface monitoring will be evaluated for their ability to detect and track waste plume migration toward and into ground water. Remote sensing will be conducted to assist permit writers in verifying the contents of permit applications and to assist enforcement in assessing compliance.

Provide Quality Assurance Support. Quality assurance research will focus on improving quality control sample matrices and expanding the universe of materials for which quality control samples are available. Work on the quality control sampling program which ensured accuracy of data will be privatized or reduced.

Develop Procedures to Prevent and Contain Hazardous Releases. Remote sensing support is provided to the Regions for monitoring spills and spill threats under emergency conditions in support of Section 311 of the Clean Water Act. In addition, in support of leak prevention and corrective action, leak monitoring methods applicable to underground storage tanks are under evaluation. This activity includes evaluation of leak monitoring methods to establish which existing instrumentation meet established performance criteria.

Conduct Research on Municipal Solid Waste. An expert system will be assembled for use in evaluating Subtitle-D facility locations in wet environments.

Conduct Research for Emergency Planning and Community Right-to-Know. A research plan will be developed on modeling and monitoring of hazardous chemical releases.

1990 Program

In 1990, the Agency is allocating a total of $11,507,700 supported by 47.5 total workyears for this program, of which $3,257,200 is from the Salaries and Expenses appropriation and $8,250,500 is from the Research and Development appropriation.

Methods for characterizing and detecting wastes and providing criteria for determining if those wastes constitute a potential hazard are being developed. Methods are tested for application to highly toxic wastes in soils and sediments and for detection of organics in the ambient air near and at waste treatment disposal facilities. An effort to validate and improve the methods contained in the Compendium of Analytical Methods to Monitor for Solid Waste (SW-846) is underway. Automated methods for subsurface monitoring are being developed and evaluated for their ability to detect and track waste plume migration toward and into ground water. Remote sensing is conducted to assist permit writers. Technical information is disseminated to State and local Governments.

To ensure that the data on which regulations and enforcement actions are based are accurate, quality control samples and reference materials of wastes are provided to EPA contractors, State, and local laboratories. This will promote standardized monitoring methods, and quality control using RCRA analytical techniques.

Remote sensing support is provided to the Regions for monitoring spills and spill threats. In support of leak prevention and corrective action, leak monitoring methods applicable to underground storage tanks are under evaluation.

1989 Accomplishments

In 1989, the Agency obligated a total of $12,027,200 supported by 52.4 total workyears for this program, of which $3,983,100 was from the Salaries and Expenses appropriation and $8,044,100 was from the Research and Development appropriation.

During 1989, research was conducted to support RCRA requirements to determine waste composition, to detect levels of toxic constituents in ground water/air, and to characterize hazardous constituents through the evaluation, validation, development and improvement of methods for SW-846. Monitoring methods were evaluated and/or developed for use at Subtitle-D landfills. Remote sensing was provided to assist in the assessment and mitigation of spills from facilities engaged in production, storage, processing, and distribution of hazardous materials. Performance criteria for evaluating leak monitoring methods were established and available techniques for conducting external leak monitoring from underground storage tanks were evaluated and developed.

HEALTH EFFECTS

1991 Program Request

The Agency requests a total of $1,790,400 supported by 11.6 total workyears for this program, of which $960,900 will be for the Salaries and Expenses appropriation and $829,500 will be for the Research and Development appropriation. This represents an increase from 1990 of $319,300 in the Salaries and Expenses appropriation and $22,100 in the Research and Development appropriation, and no change in total workyears. The increase in the Salaries and Expenses appropriation reflects increased personnel and support costs. The increase in the Research and Development reflects increased research on combustion residues.

Develop Data to Support the Incineration Regulations. Health effects research will evaluate the comparative potency approach to assessment of risks posed by emissions from hazardous waste incinerators. Research will develop procedures for determining the relationship between exposure to emissions and the actual dose of emissions to a target organ within the body and between target dose and health effects.

Conduct Research on Municipal Solid Waste. Health effects research will evaluate potential effects of residues and emissions from municipal solid waste combustion. The focus will be on the relationship between the matrix in which agents occur (i.e. soil, chemical mixtures, etc) and health effects.

1990 Program

In 1990, the Agency is allocating a total of $1,449,000 supported by 11.6 total workyears for this program, of which $641,600 is from the Salaries and Expenses appropriation and $807,400 is from the Research and Development appropriation.

Data are being developed to support the incineration regulations. Research continues to provide methods and health effects data on municipal and hazardous waste combustion emissions and residual complex mixtures to assist in the

assessment of potential human health risks. Pollutants from combustion control technologies are being assessed using biological potency methods to evaluate the potential hazards associated with waste incineration.

1989 Accomplishments

In 1989, the Agency obligated a total of $1,135,100 supported by 11.8 total workyears for this program, of which $660,300 was from the Salaries and Expenses appropriation and $474,800 was from the Research and Development appropriation.

In 1989, this research program assessed the potential for health effects from air emissions and residues from incinerators using various bioassay procedures. Health endpoints considered included genotoxicity, pulmonary toxicity, and other major target organ effects. A procedure was proposed for use in evaluating the genotoxic potential of chlorinated organic products of incomplete combustion.

ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

1991 Program Request

In 1991, the Agency requests a total of $17,996,700 supported by 84.9 total workyears for this program, of which $5,570,300 will be for the Salaries and Expenses appropriation and $12,426,400 will be for the Research and Development appropriation. This represents an increase from 1990 of $390,400 in the Salaries & Expenses appropriation which includes 1.2 additional total workyears for municipal solid waste and alternative technologies and increased personnel and support costs. There is a decrease of $1,213,100 in the Research and Development appropriation because of decreased hazardous waste landfills research; decreased detection research of leaks from underground storage tanks; discontinued funding for the New Orleans Waste Management Research Center; and discontinued funding of research on using solar energy to treat wastes. Additional research on municipal solid waste will be conducted.

Develop data to Support the Use of Alternative Technologies. Research efforts will evaluate both existing and emerging alternative treatment processes for wastes likely to be restricted from land disposal. A major focus of the research program will be on reducing the production of pollutants at their source. Research will define assessment techniques to measure the reduction in quantities of pollutants produced and to identify potential areas for pollution prevention and risk reduction. Research on using solar energy to treat waste will be completed. The New Orleans Management Center in 1991, will be self-sustaining requiring no further EPA funds since it will be generating its operating funds through industrial, state and Federal grants.

Develop Data to Support the Land Disposal Regulations. Major issues associated with disposal of hazardous waste to the land will be addressed. Synthetic and clay liners will be studied and the effectiveness of alternative closure and monitoring procedures for surface impoundments will be investigated. Research also characterizes air emissions from hazardous waste treatment, storage, and disposal facilities (TSDFs) and to assess methods to control them. Technical Resource Documents will be updated for use by Regional and state agencies for permitting hazardous waste facilities and for enforcing applicable regulations.

Develop Data to Support the Incineration Regulations. Incineration research will focus on four areas: 1) characterizing performance of existing thermal technologies; 2) developing methods for compliance monitoring of these facilities; 3) characterizing products of incomplete combustion and their formation conditions; and 4) developing methods to predict performance to avoid process failure and control process reliability. Information is being developed for both industrial processes and incinerators to support regulation of toxic metal emissions, emission of products of incomplete combustion, and for refinement of the destruction removal efficiency rule.

Develop Procedures to Prevent and Contain Hazardous Releases. Underground storage tank (UST) research evaluates prevention, detection, and corrective action technologies to identify cost-effective, reliable techniques and equipment for USTs. This research has and will continue to produce publications on prevention practices, assessment of retrofit techniques for leaking underground storage tanks, and improvement of emergency response and remedial corrective action technologies.

Conduct Research on Municipal Solid Waste. The Municipal Innovative Technology Evaluation (MITE) program will continue. This program is designed to: 1) provide data on innovative equipment and techniques for managing municipal waste; 2) accelerate early commercialization of innovative equipment; 3) provide support and credibility to new techniques and equipment being developed at the bench and pilot-scale; and 4) develop promising techniques directly where a definite need exists. The initial emphasis is on demonstration of new or modified equipment processes or techniques at full or nearly full scale. Major issues associated with disposal of municipal solid waste to the land will be investigated. Research on municipal solid waste incinerators will be conducted. The emphasis will shift from field characterization to evaluation of various air pollution control devices and the assessment of ash utilization and disposal techniques.

Conduct Research for Emergency Planning and Community Right-to-Know. Efforts will focus on developing of process measurement techniques for prevention of accidental and chronic releases to help decisionmakers assess and respond to risks posed by hazardous substance releases.

1990 Program

In 1990, the Agency is allocating a total of $18,819,400 supported by 83.7 total workyears for this program, of which $5,179,900 is from the Salaries and Expenses appropriation and $13,639,500 is from the Research and Development appropriation.

Research efforts evaluate treatment processes for wastes likely to be restricted from land disposal. New research is being conducted to define assessment techniques to measure the reduction in quantities of pollutants produced and to identify potential areas for pollution reduction at the source. A new Municipal Innovative Technology Evaluation (MITE) program is underway. Research begins, through a cooperative agreement with DOE, on using solar energy to treat and dispose of waste. Additionally, a center will be established in New Orleans to provide an integrated approach for solving urban waste problems and to disseminate information.

Major issues associated with disposal of municipal and hazardous waste to the land continue to be addressed. Research also characterizes air emissions from hazardous waste facilities (TSDFs). Technical Resource Documents are being updated for use by Regional and State agencies.

Information is being developed for both industrial processes and incinerators to support regulations. Research on municipal solid waste incinerators is being conducted.

Underground storage tank (UST) research evaluates technologies to identify cost-effective, reliable techniques and equipment for USTs. Research on identification and evaluation of reliable leak detection methods for underground chemical tanks is being completed and the leak detection facility is being closed.

1989 Accomplishments

In 1989, the Agency obligated a total of $16,589,200 supported by 93.0 total workyears for this program, of which $5,366,500 was from the Salaries and Expenses appropriation and $11,222,700 was from the Research and Development appropriation.

Activities in 1989 included the evaluation of emerging alternative technologies and initiation of a waste minimization/ pollution prevention program. Emerging technologies for detecting leaks from petroleum and chemical tank systems were evaluated. Major land disposal issues and various thermal destruction systems techniques were investigated.

ENVIRONMENTAL PROCESSES AND EFFECTS

1991 Program Request

The Agency requests a total of $7,222,500 supported by 50.0 total workyears for this program, of which $3,569,400 will be for the Salaries and Expenses appropriation and $3,653,100 will be for the Research and Development appropriation. This represents increases from 1990 of $264,400 and $76,100 respectively, with a decrease of 1.7 total workyears. The increase in the Salaries & Expense appropriation is attributed to rising personnel and support costs. The Research and Development appropriation is slightly increased because of the impact of the 1990 reductions taken for sequestration. The decrease in workyears reflects a reduction in several projects within transport and fate research.

Develop and Evaluate Procedures for Conducting Risk Assessments. Research on multimedia site assessment models in support of hazardous waste listing and delisting activities, methods for risk characterization of complex wastes, and methods and data for predicting subsurface contamination will be conducted. Transport models for predicting waste concentrations in saturated and unsaturated zones will be refined. Research will be conducted on bioavailability, uptake, and metabolism of hazardous chemicals by plants and animals.

Develop Procedures to Prevent and Contain Hazardous Releases. Research will focus on improving cost-effective treatment technologies.

1990 Program

In 1990, the Agency is allocating a total of $6,882,000 supported by 51.7 total workyears for this program, of which $3,305,000 is from the Salaries and Expenses appropriation and $3,577,000 is from the Research and Development appropriation.

Research continues on multimedia site assessment models in support of hazardous waste listing and delisting activities, methods for risk characterization of complex wastes, and methods and data for predicting subsurface contamination. An increased emphasis is now placed on ecological assessments. Transport models for predicting waste concentrations in saturated and unsaturated zones in the subsurface are being field evaluated, and a model describing speciation of metals is being developed. Bioavailability, uptake, and metabolism of hazardous chemicals by plants and animals are being investigated.

Procedures are being developed to prevent and contain hazardous releases. Research and field tests of biological, physical, and chemical methods, previously tried at hazardous waste sites, are conducted to determine their cost and applicability to cleanup of pollutants from underground storage tanks.

1989 Accomplishments

In 1989, the Agency allocated a total of $7,873,300 supported by 53.3 total workyears for this program, of which $3,453,000 is from the Salaries and Expenses appropriation and $4,420,300 is from the Research and Development appropriation.

Research supported the RCRA listing, delisting, risk assessment, siting, and land disposal restriction programs. Multimedia assessment methods and evaluation of waste management and treatment needs, based on potential human health and environmental impacts, were developed. Laboratory experiments were conducted to determine plant uptake of hazardous chemicals. The multimedia bioassessment screening protocol used in evaluating damage caused by spills and potential risk associated with waste sites was revised based on the results of field evaluations. In addition, studies on subsurface characteristics influencing heavy metal contamination of ground water, evaluations of immiscible flow processes controlling contaminant transport in ground water, and validation of existing saturated and unsaturated zone contaminant transport models were conducted.

TECHNICAL INFORMATION AND LIAISON

1991 Program Request

Technical Information and Liaison. The Agency requests $1,000,000 in the Research and Development appropriation for this activity in 1991. This represents an $1,000,000 increase from 1990 since this program activity did not exist in 1989. The technical information needs of the Hazardous Waste Program will be addressed by providing handbooks and PC expert systems to State and local decision makers in such areas as: 1) disposal of residues; 2) selecting appropriate treatment technologies; and 3) source reduction and recycling. It is a new funding category, formerly included in the Monitoring Systems and Quality Assurance program element.

1990 Program

The Agency has not allocated any resources to this program activity since this activity does not exist in 1990.

INTEGRATED HAZARDOUS WASTE RESEARCH

1991 Program Request

The Agency requests no resources for this activity in 1991. Since the Center for Environmental Management at Tufts University has been funded by EPA since 1983, the Agency feels this Center is now fully established and can obtain continued funding on a competitive basis.

1990 Program

In 1990, the Agency is allocating a total of $2,435,100 supported by no workyears for this program, all of which is from the Research and Development appropriation.

The program is addressing a wide variety of research, education and public policy environmental issues. Several on-going projects will be completed. New activities related to pollution prevention, international environmental policy and environmental health policy and education will be initiated.

1989 Accomplishments

In 1989, the Agency obligated a total of $2,500,000 for this program from the Research and Development appropriation. These resources were used to continue funding research projects on health effects, monitoring systems, alternative technologies, risk communication and waste minimization. Major accomplishments included the development of a model workshop for regional environmental health policy officials, and field testing of two in-situ chemical sensor measurement systems. Others are the development of 28 case studies to understand how multinational companies implement effective environmental programs and development of biomarker protocols for the rapid detection of environmental pollutants.

Abatement and Control

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

Table of Contents

HAZARDOUS WASTE
Waste Management Regulations, Guidelines & Policies

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Regulations, Guidelines & Policies - Hazardous Waste					
Salaries & Expenses	$16,279.9	$18,401.3	$17,943.6	$21,575.0	$3,631.4
Abatement Control and Compliance	$41,743.0	$38,508.2	$38,016.2	$40,429.5	$2,413.3
TOTAL	$58,022.9	$56,909.5	$55,959.8	$62,004.5	$6,044.7
Regulations, Guidelines & Policies - Air and Radiation					
Salaries & Expenses	$642.8	$663.1	$646.2	$851.5	$205.3
Abatement Control and Compliance	$2,998.9	$3,008.8	$2,937.0	$3,073.3	$136.3
TOTAL	$3,641.7	$3,671.9	$3,583.2	$3,924.8	$341.6
Regulations, Guidelines & Policies - Water					
Salaries & Expenses	$2,453.9	$2,016.6	$2,168.9	$1,965.6	-$203.3
Abatement Control and Compliance	$4,430.7	$4,558.8	$4,467.9	$3,966.5	-$501.4
TOTAL	$6,884.6	$6,575.4	$6,636.8	$5,932.1	-$704.7
Regulations, Guidelines & Policies - UST					
Salaries & Expenses	$2,791.7	$3,681.1	$3,291.6	$4,575.0	$1,283.4
Abatement Control and Compliance	$3,888.0	$4,101.3	$4,049.0	$4,165.8	$116.8
TOTAL	$6,679.7	$7,782.4	$7,340.6	$8,740.8	$1,400.2
TOTAL:					
Salaries & Expenses	$22,168.3	$24,762.1	$24,050.3	$28,967.1	$4,916.8
Abatement Control and Compliance	$53,060.6	$50,177.1	$49,470.1	$51,635.1	$2,165.0
Waste Management Regulations, Guidelines & Policies TOTAL	$75,228.9	$74,939.2	$73,520.4	$80,602.2	$7,081.8
PERMANENT WORKYEARS					
Regulations, Guidelines & Policies - Hazardous Waste	231.1	257.1	256.8	264.8	8.0
Regulations, Guidelines & Polciies - Air and Radiation	10.9	13.0	13.0	13.0	0.0
Regulations, Guidelines & Policies - Water	54.4	48.7	47.9	38.7	-9.2

HAZARDOUS WASTE
Waste Management Regulations, Guidelines & Policies

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
Regulations, Guidelines & Policies - UST	52.0	68.2	65.6	68.2	2.6
TOTAL PERMANENT WORKYEARS	348.4	387.0	383.3	384.7	1.4
TOTAL WORKYEARS					
Regulations, Guidelines & Policies - Hazardous Waste	238.3	257.1	256.8	264.8	8.0
Regulations, Guidelines & Policies - Air and Radiation	11.3	13.0	13.0	13.0	0.0
Regulations, Guidelines & Policies - Water	59.4	48.7	48.7	38.7	-10.0
Regulations, Guidelines & Policies - UST	56.1	68.2	68.2	68.2	0.0
TOTAL WORKYEARS	365.1	387.0	386.7	384.7	-2.0

HAZARDOUS WASTE

Waste Management Regulations, Guidelines, and Policies

Budget Request

The Agency requests a total of $80,602,200 and 384.7 total workyears for 1991, an increase of $7,081,800 and a decrease of 2 total workyears from 1990. Of the request, $28,967,100 will be for the Salaries and Expenses appropriation and $51,635,100 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $4,916,800 in the Salaries and Expenses appropriation, and an increase of $2,165,000 in the Abatement, Control and Compliance appropriation. The increase in Salaries and Expenses reflects increased personnel and support costs. The increase Abatement, Control and Compliance reflects expanded pollution prevention activities and additional program management support. The decrease in workyears reflects completed regulatory activities in the water program.

REGULATIONS, GUIDELINES, AND POLICIES -- HAZARDOUS WASTE

1991 Program Request

The Agency requests a total of $62,004,500 and 264.8 total workyears for this program, of which $21,575,000 will be for the Salaries and Expenses appropriation and $40,429,500 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $3,631,400 for Salaries and Expenses, an increase of $2,413,300 for Abatement, Control and Compliance, and an increase of 8.0 total workyears from the 1990 levels. The increase in total workyears and Abatement, Control, and Compliance reflects expanded pollution prevention activities and additional program management support. The increase in Salaries and Expenses reflects increased personnel and support costs.

The Agency will continue the development and promulgation of major regulations, including the Hazardous and Solid Waste Amendments (HSWA) mandated waste listings, representing a significant step in fulfilling the Agency's HSWA requirements. In addition, the Agency will propose guidelines for mixed waste and management standards for mining wastes. The Agency will address the growing national concern over waste combustion by finalizing a rule for burning hazardous waste, issuing waste combustion guidance, and developing standards for managing municipal waste combustion ash.

The Agency will increase pollution prevention efforts by coordinating waste minimization activities, providing technical assistance, conducting a recycling campaign for public media, and producing a waste minimization report to Congress. The Agency will continue its medical waste efforts, completing a report to Congress, and providing technical support, training, and outreach assistance to states involved with the medical waste tracking demonstration program.

The Agency will expand efforts to address non-hazardous waste issues by serving as a technical clearinghouse for non-hazardous waste management information, options, and guidelines. The Agency will assist states to develop solid waste management plans, and will produce non-hazardous waste guidelines. EPA will provide assistance to states and Regions in working with Indian Tribes on non-hazardous waste issues.

The Agency will continue to develop and disseminate to Regional and state permit writers technical guidance on new regulations, including new procurement guidelines, tire guidelines for states, corrective action guidelines, and mixed waste guidelines.

1990 Program

The Agency is allocating a total of $55,959,800 and 256.8 total workyears for this program, of which $17,943,600 is from the Salaries and Expenses appropriation and $38,016,200 is from the Abatement, Control and Compliance appropriation.

The Agency is continuing to develop and promulgate major regulations required by HSWA. EPA is proposing regulations requiring corrective action at solid waste management units and revisions to hazardous waste facility location standards. The Agency is completing the treatment standards for the land disposal restrictions schedule and is finalizing the Organic Toxicity Characteristic, increasing the number of wastes regulated as hazardous. EPA is also finalizing regulations to list primary treatment sludge from petroleum refining processes.

The Agency serves as a source for non-hazardous waste management information, options, and guidelines. Activities include developing and disseminating technical and general guidance to assist states, local governments, and citizens in implementing recycling and source reduction programs. The Agency is developing large volume waste management strategies and programs. Mining waste management standards are being developed, along with reports to Congress on mineral processing and state oil and gas programs.

The Agency continues to process state HSWA authorization packages, and develop and disseminate to Regional and state permit writers technical guidance on new regulations, including guidance on the land disposal restrictions, hazardous and solid waste incineration, and corrective action provisions.

1989 Accomplishments

In 1989, the Agency obligated a total of $58,022,900 supported by 238.3 total workyears for this program, of which $16,279,900 was from the Salaries and Expenses appropriation and $41,743,000 was from the Abatement, Control and Compliance appropriation.

The Agency addressed important HSWA and non-HSWA regulatory revisions. The Agency completed treatment standards for the second Third of the wastes scheduled for the land disposal restrictions program, and began work on the third Third requirements. EPA promulgated Federal procurement guidelines for tires and insulation. The Agency amended the universe of wastes subject to Subtitle C management standards by proposing listings of wood preserving wastes and methyl

bromide, and by clarifying the status of mineral processing wastes. The Agency promulgated the delay of closure rule for hazardous waste facilities that are capable of safely receiving non-hazardous wastes.

The Agency continued to develop a nationwide program for the safe management of non-hazardous (Subtitle D) wastes. In support of the pollution prevention objectives, the Agency provided assistance and information to government, industry, and consumers to foster increased recycling and source reduction. The Agency issued the Agenda for Action, which outlined options and preferred practices to help states and municipalities develop integrated solid waste management programs. In addition, the Agency produced three reports to Congress: Solid Waste Disposal in the United States, Municipal Solid Waste Strategy, and Management of Hazardous Wastes from Educational Institutions.

REGULATIONS, GUIDELINES, AND POLICIES -- AIR AND RADIATION

1991 Program Request

The Agency requests a total of $3,924,800 supported by 13.0 total workyears for this program, of which $851,500 will be for the Salaries and Expenses appropriation and $3,073,300 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $205,300 for the Salaries and Expenses appropriation, an increase of $136,300 in the Abatement, Control and Compliance appropriation, and no change in total workyears from 1990.

In 1991 the program will continue to support the promulgation of regulations for volatile organic compound (VOC) emissions from seven types of treatment, storage, and disposal facility (TSDF) area sources: surface impoundments, landfills, wastewater treatment tanks, waste piles, land treatment facilities, pretreatment facilities, and transfer operations. The Agency has estimated that these sources emit 2.0 million tons per year of VOC and toxic air pollutants that have been associated with up to 140 cancer deaths per year. Some sources will require additional regulations to control emissions of specific toxic constituents that will not be covered by the 1991 rule. Resources will be provided for data collection to promulgate regulations for these toxic pollutants in a future year. This program will also provide technical support for states and EPA Regions in implementing the TSDF regulations.

1990 Program

In 1990 the Agency is allocating a total of $3,583,200 supported by 13.0 total workyears to this program, of which $646,200 is from the Salaries and Expenses appropriation and $2,937,000 is from the Abatement, Control and Compliance appropriation.

In 1990 EPA is continuing to develop standards for the seven types of TSDF area sources listed above. EPA has promulgated standards for equipment leaks at these facilities and has proposed standards for other sources. The Agency will propose additional regulations in late 1990. In addition, the Agency will promulgate an accelerated rule covering a subset of TSDF area source types including fugitive emissions and waste solvents.

1989 Accomplishments

In 1989 the Agency obligated a total of $3,641,700 supported by 11.3 total workyears, of which $642,800 was from the Salaries and Expenses appropriation and $2,998,900 was from the Abatement, Control and Compliance appropriation. In 1989 EPA continued work on the development of interim TSDF rules.

REGULATIONS, GUIDELINES, AND POLICIES -- WATER

1991 Program Request

In 1991, the Agency requests a total of $5,932,100 supported by 38.7 total workyears for this program, of which $1,965,600 will be for the Salaries and Expenses appropriation and $3,966,500 will be for the Abatement, Control and Compliance appropriation. This represents a decrease of $203,300 in Salaries and Expenses, a decrease of $501,400 in Abatement, Control and Compliance and a decrease of 10.0 workyears. The decreases reflect a reduction in the number of publicly owned treatment works (POTWs) requiring corrective action, completion of the double-liner waiver assessment and a decline in the level of oversight needed to review facility exemption petitions.

In 1991, one of the Agency's major pollution prevention activities is improving the pretreatment program for controlling hazardous wastes from industrial users of POTWs. Information gathering and sampling of specific Domestic Sewage Study (DSS) industries will continue. The Agency will continue to develop effluent limitations, guidelines and standards for several DSS industries, including machinery manufacturing and rebuilding, hazardous waste treatment and pharmaceuticals manufacturing. EPA will issue technical guidance and provide assistance on additional local limits, particularly in relation to new sludge technical regulations and on POTW enforcement response plans.

Regions and states will continue to revise POTW permits to include requirements for spill prevention plans, sewage sludge, whole effluent toxicity screening or testing and modification of pretreatment program implementation. EPA and states will continue pretreatment audits and inspections of POTWs and review and approval of new local limits for controlling hazardous pollutants in discharges and sludges. EPA will complete issuance of rider permits to incorporate follow-up actions where necessary and will issue additional permits as POTWs are identified as needing corrective actions. EPA will assess compliance and take enforcement action to ensure reporting requirements and other RCRA permit-by-rule requirements are satisfied. Work will continue in completing ongoing RCRA facility assessments and remedial investigations.

The Agency will continue to review "no migration" petitions to continue injecting banned wastes. Underground Injection Control (UIC) permit modifications required to implement the land ban provisions will be reviewed. The Agency will continue to provide training for modeling applied to Class I well petition work. In addition, EPA will initiate a study to determine whether some Class I hazardous waste regulations should be applied to all Class I wells. A corrective action program will continue to be implemented for Class I hazardous

waste injection wells, including assessments of prior or continuing releases and proposals for clean-up. The Regions will prepare assessments/site investigations of wells where a previous or continuing release has been identified. Proposals for clean-up will be developed and incorporated into the UIC permits.

1990 Program

In 1990, the Agency is allocating a total of $6,636,800 supported by 48.7 total workyears for this program, of which $2,168,900 is from the Salaries and Expenses appropriation and $4,467,900 is from the Abatement, Control and Compliance appropriation.

The Agency is continuing information-gathering and sampling of specific DSS industries -- wastewaters are being screened and analyzed for hazardous constituents. EPA will publish data summaries for 15 industries in 1990. The Agency will continue development of effluent limitations, guidelines and standards for several DSS industries (hazardous waste treatment, pharmaceuticals manufacturing, etc.). The Agency is formulating guidance and tracking, overseeing and assisting states in implementing the new specific discharge prohibitions, including ignitability/explosivity and reactivity/fume toxicity. The Agency is establishing hazardous waste discharge notification improvements, numerical discharge limits or other controls to protect worker health and safety.

EPA is continuing to implement corrective action requirements for a small number of POTWs and continues to focus on control of hazardous and toxic pollutants through implementation of recommendations from the DSS. Pretreatment audits and inspections continue to focus on identification of POTW corrective action requirements and appropriate follow-up assessments and investigations.

Headquarters continues to develop guidance and provide technical advice and assistance for Regions and states in implementing hazardous waste disposal restrictions, in reviewing facility petitions and in enforcing the loss of facility interim status.

Due to the planned promulgation of the remaining schedule of hazardous wastes regulated under RCRA Section 3004(g), EPA expects to review up to 40 petitions and revise or modify up to 75 hazardous waste injection well permits from operators of hazardous waste injection wells seeking exemptions from the injection ban. The Agency will provide technical assistance in developing geologic data; modeling of waste fate and transport is under development. Regional UIC permit writers are conducting corrective action investigations for Class I hazardous waste wells, giving priority to wells with permits issued after November 1984 without a schedule for corrective action. Regions will also continue to review petitions from operators of hazardous waste injection wells seeking exemptions from the injection ban under Part 148.

1989 Accomplishments

In 1989, the Agency obligated a total of $6,884,600 supported by 59.4 total workyears, of which $2,453,900 was from the Salaries and Expenses and $4,430,700 was from the Abatement, Control and Compliance appropriations.

EPA continued development of regulations for pharmaceuticals, machinery manufacturing and rebuilding, hazardous waste treatment and pesticides formulating/packaging industries. Sludge use and disposal screening for RCRA constituents continued. The Regions and POTWs developed new local limits to address hazardous pollutants and increased the number of spill prevention plans initiated. The Agency also proposed changes to the general pretreatment regulations based on recommendations from the DSS.

EPA and states continued to implement the corrective action requirement for POTWs that accept hazardous waste. The Regions undertook or oversaw facility assessments, conducted visual site or sampling inspections and implemented remedial investigations and corrective measures at appropriate POTWs. Implementation of RCRA and pretreatment requirements, based on the DSS, continued. Approximately 40 no-migration petitions were received and review began during 1989. Regional UIC permit writers conducted corrective action investigations for Class I hazardous waste wells.

REGULATIONS, GUIDELINES, AND POLICIES -- UNDERGROUND STORAGE TANKS (UST)

1991 Program Request

The Agency requests a total of $8,740,800 supported by 68.2 total workyears for this program of which $4,575,000 is for Salaries and Expense appropriation and $4,165,800 will be for Abatement, Control and Compliance appropriation. This represents increases of $1,283,400 in Salaries and Expenses and $116,800 in Abatement, Control and Compliance and no increase of workyears. The increases support increased personnel costs and additional implementation assistance to states and Indian tribes.

The Agency will implement a national underground storage tank (UST) program to prevent pollution caused by leaking USTs. EPA will ensure that states continue work to meet the conditions for Federal approval of their UST programs. The number of state program approvals will increase as many states complete the legislative and regulatory changes required to ensure their programs are no less stringent than the Federal program, including the development of adequate enforcement authorities and capacities. For states not applying for approval, the Agency will continue to encourage and assist these states in the development and implementation of their UST programs.

The Agency will increase outreach efforts to tribal leaders and owners/operators of tanks on Indian lands. The Agency will also provide Indian tribes with compliance and enforcement assistance. The UST program on Indian lands will expand to include monitoring compliance with all UST regulations, providing compliance assistance to Indian tank owners/operators, and continuing outreach to tribal leaders. The Agency will utilize outreach efforts to promote voluntary compliance with the leak detection deadline for tanks installed before 1974 and will seek to educate the public and the regulated community.

1990 Program

The Agency is allocating a total of $7,340,600 supported by 68.2 total workyears of which $3,291,600 is from Salaries and Expenses and $4,049,000 is from Abatement, Control and Compliance appropriation.

The basic approach to accomplishing the environmental goals of the UST program is to develop, support and improve, state and local programs. Efforts in this area include helping the states develop more streamlined processes, and better technical and management tools. As technical and leak detection regulations are phased-in, the Agency will assist the tank owners' efforts to assess compliance with the first phase-in group of USTs 25 years of age and older. The Agency is developing standard test procedures for leak detection equipment that will allow tank owners to choose equipment that meet Agency requirements. The Agency is conducting a nationwide marketing campaign to promote resource efficient methods for states to monitor owner/operator compliance and to take enforcement actions against violators where necessary. One pilot state has used these methods to achieve a 90 percent compliance rate without resorting to the use of resource-intensive formal enforcement orders in their first compliance group. The Agency will continue to promote these methods in other states throughout the year. The Agency has completed videos on installation and tank closures, and is preparing a video on conducting UST inspections. The Agency has also completed a Spanish language brochure describing the UST regulations.

The Agency is continuing to provide technical support for state regulatory development and is encouraging states to apply for Federal program approval. The Agency is also helping states manage their increasing workloads by providing technical support on their data management information systems.

The Agency is working with owners/operators and municipalities to meet the Federal financial responsibility requirements by finalizing the financial test allowing municipalities to self-insure. In addition, the Agency is assisting states in developing state assurance programs and loan funds. The loan programs would be used by owners/operators to upgrade or replace their tanks, preventing many leaks from ever occurring. The assurance programs will help owners/operators to meet their financial responsibility requirements. The Agency is reviewing proposed state trust funds as they are submitted.

1989 Accomplishments

In 1989, the Agency obligated a total of $6,679,700 supported by 56.1 workyears, of which $2,791,700 was from the Salaries and Expenses appropriation and $3,888,000 was from the Abatement, Control and Compliance appropriation.

The Agency issued final regulations on corrective action, leak detection, and technical performance standards for new and existing tanks that contain petroleum products and hazardous substances. In addition, the Agency finalized regulations governing financial responsibility requirements, and developed supplemental policies and guidance on the process and requirements for state regulatory program authorization.

The Agency negotiated UST grants with all states and provided technical assistance and guidance for implementation and enforcement. These grants provided seed money for state UST programs.

The Agency finalized and distributed a number of useful tools such as videos demonstrating correct procedures for tank installations and closure. In addition, the Agency also developed several brochures, including Oh No and Leak Detection, which describes technical standards in plain English, and produced

a handbook on building state compliance programs. The Agency distributed these tools to the regulated community and to those responsible for ensuring compliance with UST standards and guidelines.

The Agency provided support and services to states through routine, continuous communications and reviews. The Agency assisted the states in improving performance in areas such as tank inspections, closures, enforcement, administrative procedures and in developing communication strategies. The Agency's compliance strategy emphasized and promoted innovative techniques to achieve voluntary compliance and to enforce when necessary.

HAZARDOUS WASTE
Financial Assistance

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
PROGRAM						
Hazardous Waste Management Financial Assistance To States						
Abatement Control and Compliance		$66,753.0	$68,914.3	$68,031.7	$88,000.0	$19,968.3
	TOTAL	$66,753.0	$68,914.3	$68,031.7	$88,000.0	$19,968.3
Underground Storage Tanks State Grants						
Abatement Control and Compliance		$9,178.7	$8,860.6	$8,747.4	$9,000.0	$252.6
	TOTAL	$9,178.7	$8,860.6	$8,747.4	$9,000.0	$252.6
TOTAL:						
Abatement Control and Compliance		$75,931.7	$77,774.9	$76,779.1	$97,000.0	$20,220.9
Financial Assistance	TOTAL	$75,931.7	$77,774.9	$76,779.1	$97,000.0	$20,220.9

Financial Assistance

Budget Request

The Agency requests a total of $97,000,000 for this program for the Abatement, Control and Compliance appropriation. This is an increase of $20,220,900 from the level provided in 1990.

HAZARDOUS WASTE MANAGEMENT FINANCIAL ASSISTANCE TO STATES

1991 Program Request

The Agency requests a total of $88,000,000 for this program, all of which will be for the Abatement, Control and Compliance appropriation. This represents an increase of $19,968,300 to enhance state capability through increased permitting, enforcement, and information management efforts.

In 1991, the Agency will assist the states in their continued efforts to develop legislation and regulations to achieve equivalence with the Federal hazardous waste management program. Almost all states will be authorized for the base Resource Conservation and Recovery Act (RCRA) program, and these states will be developing the capability to adopt corrective action and other provisions of Hazardous and Solid Waste Amendments of 1984 (HSWA).

The permitting program will continue the shift, begun in 1990, from permitting operating incinerators to other mandated permitting activities. The Agency will increase resources for processing post-closure permits for land disposal facilities to address an additional 300 of these environmentally significant facilities. EPA will also accelerate the permitting of storage and treatment facilities to meet the November 1992 statutory deadline. By the end of 1991, approximately 75% of the facilities subject to the deadline will have permits or permits being processed. The states will continue to process modifications to operating permits as required. In addition, the states will continue to review and approve closure plans for incinerators and storage and treatment facilities, and will process appeals to permit decisions, as necessary.

The states will ensure that non-compliance is identified and addressed through timely and appropriate enforcement actions and that handlers are returned to compliance. Compliance monitoring of generators and transporters will be a priority activity, especially for compliance with land disposal restrictions. The states will conclude enforcement actions against facilities, oversee adherence to compliance schedules, and take enforcement actions for violations of approved closure plans. The states will annually inspect critical land disposal and incineration facilities and conduct mandated inspections at Federal and local government facilities and at a targeted portion of generators and transporters. The states will also inspect one-half of all storage and treatment facilities and other land disposal facilities. In addition, the states will conduct inspections to support the processing of permit applications and to ensure compliance with permit provisions or existing administrative and judicial actions. New facilities brought into regulation by wood preserving, hazardous

waste fuel, organic toxicity and mining waste regulations will increase the number of facilities where state inspections and enforcement actions will be necessary.

The states will conduct oversight of owner/operator RCRA facility inspections/corrective measure studies (RFI/CMS) at permitted and environmentally significant closed facilities. These facilities will be prioritized based on risk, with the most environmentally significant closures addressed first. The states will ensure that corrective action initiated in prior years is fully supported through determination and implementation of the appropriate remedy. The owner/operators will initiate corrective measures through corrective action orders or as a result of a schedule of compliance in the permit. States will monitor corrective action progress with thorough oversight of the owner/operators' RFI/CMS and implementation of the remedy to ensure that work is performed correctly. The states will initiate new facility assessments at storage and treatment facilities seeking permits. States will also initiate judicial actions when a permit schedule or administrative order is considered insufficient to require the owner/operator to undertake corrective measures that would protect human health and the environment.

The Agency will increase resources to fund national implementation of a hazardous waste data management system that will greatly expand the states' and EPA's ability to input and retrieve information critical to successful program management.

1990 Program

In 1990, the Agency is allocating a total of $68,031,700 for this program, all of which is from the Abatement, Control and Compliance appropriation.

The Agency requires states to amend their programs to incorporate the provisions of RCRA and HSWA. The states are proposing legislation and upgrading regulations to achieve equivalence with the Federal hazardous waste management program, and are applying to EPA for authorization to administer the program.

States are directing permitting efforts toward successfully meeting the November 1989 deadline for issuing permits to all operating hazardous waste incineration facilities; toward permitting environmentally significant storage and treatment facilities; and toward processing modifications to existing permits. The states are emphasizing compliance monitoring and enforcement efforts to ensure adequate environmental safeguards covering the generation, transportation, and disposal of hazardous waste. The states are investigating releases at facilities to determine the need for corrective action and, as releases are identified, are ensuring that owner/operators address the contamination.

1989 Accomplishments

In 1989, the Agency obligated a total of $66,753,000 for this program, all of which was from the Abatement, Control and Compliance appropriation.

In 1989, the states continued to develop legislation and regulations to achieve equivalence with the Federal hazardous waste management program. EPA granted the states authority to administer important HSWA regulations. The states and Regions worked jointly on processing permits for those HSWA provisions for which states were not authorized, particularly corrective action.

The states successfully processed land disposal facility permit applications to meet the November 1988 HSWA deadline. The Agency and states gave the processing of incinerator permit applications a high priority due to the November 1989 deadline.

The states performed mandated inspections and took appropriate enforcement actions. In addition, the states performed RCRA Facility Assessments to support the permitting program and to prioritize sites for corrective action.

UNDERGROUND STORAGE TANKS STATE GRANTS

1991 Program Request

The Agency requests a total of $9,000,000 for this program, all of which will be for the Abatement, Control and Compliance appropriation. This represents an increase of $252,600 from 1990. This increase will be used to provide additional support and to leverage state funds.

This request will provide states with a resource base to develop and implement state underground storage tanks (UST) programs. States that have attained the necessary legislative and regulatory capacities will apply for state program approval. Some states will develop capabilities for administering the entire Federal program, while others will continue to develop and update their legislative and regulatory authorities. These authorities will include technical, leak detection, financial responsibility, and corrective action standards. States will also continue to work towards achieving compliance with adequate tank closure and pressurized piping requirements and building their enforcement programs.

The leak detection and financial responsibility regulations will continue to increase the states' workload as USTs that are unable to meet applicable requirements must be either upgraded or closed. The states will process and/or review all upgrades and closures.

1990 Program

The Agency is allocating a total of $8,747,400 all of which is from the Abatement, Control and Compliance appropriation.

The states have been using grant funds as the core of their program development efforts, primarily on prevention programs including notification, data systems to track UST facilities, new tank installation, leak detection, and tank closure. Additionally, the states are currently implementing portions of the Federal regulations.

Some states are currently developing independent funding sources for their UST programs from tank fees, state taxes, and gasoline taxes. These state contributions are essential to the success of the states' prevention programs. The UST state grants provide "seed money" of about $162,000 per state for these efforts.

The phasing-in of the financial responsibility and leak detection regulations are generating additional workload for the states. These regulations are leading to an increased number of tank closures and tank upgrades, that require the states to review and process these actions.

1989 Accomplishments

In 1989, the Agency obligated $9,178,700 for this program, all of which was from Abatement, Control and Compliance appropriation.

UST grant funds were used primarily to stimulate the development of state UST programs. Most states have initiated legislative and regulatory changes necessary for the state program to be no less stringent than the Federal standards. States also commenced building capabilities for administering the Federal UST program in its entirety.

HAZARDOUS WASTE
Waste Management Regulatory Strategies Implementation

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Hazardous Waste Management Regulatory Strategies Implementation					
Salaries & Expenses	$15,769.9	$16,546.6	$16,516.0	$20,710.0	$4,194.0
Abatement Control and Compliance	$8,333.6	$9,973.6	$9,779.7	$11,599.7	$1,820.0
TOTAL	$24,103.5	$26,520.2	$26,295.7	$32,309.7	$6,014.0
TOTAL:					
Salaries & Expenses	$15,769.9	$16,546.6	$16,516.0	$20,710.0	$4,194.0
Abatement Control and Compliance	$8,333.6	$9,973.6	$9,779.7	$11,599.7	$1,820.0
Waste Management Strategies Implementation TOTAL	$24,103.5	$26,520.2	$26,295.7	$32,309.7	$6,014.0
PERMANENT WORKYEARS					
Hazardous Waste Management Regulatory Strategies Implementation	348.8	379.8	353.9	426.2	72.3
TOTAL PERMANENT WORKYEARS	348.8	379.8	353.9	426.2	72.3
TOTAL WORKYEARS					
Hazardous Waste Management Regulatory Strategies Implementation	373.4	379.8	379.0	426.2	47.2
TOTAL WORKYEARS	373.4	379.8	379.0	426.2	47.2

Hazardous Waste Management Regulatory Strategies Implementation

Budget Request

The Agency requests a total of $32,309,700 supported by 426.2 total workyears for 1991, an increase of $6,014,000 and 47.2 total workyears from 1990. Of the request, $20,710,000 will be for the Salaries and Expenses appropriation and $11,599,700 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $4,194,000 in the Salaries and Expenses appropriation and an increase of $1,820,000 in the Abatement, Control and Compliance appropriation.

HAZARDOUS WASTE MANAGEMENT REGULATORY STRATEGIES IMPLEMENTATION

1991 Program Request

The Agency requests a total of $32,309,700 and 426.2 total workyears for this program, of which $20,710,000 will be for the Salaries and Expenses appropriation and $11,599,700 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $4,194,000 for Salaries and Expenses, $1,820,000 for Abatement, Control and Compliance, and an increase of 47.2 total workyears. The increase in Salaries and Expenses reflects increases in personnel and support costs. The increase in Abatement, Control and Compliance and workyears will support additional permitting efforts.

The largest area of growth will be in the Agency's permitting efforts, conducted in cooperation with the states. The permitting program will continue the shift, begun in 1990, from permitting operating incinerators to processing post-closure permits for land disposal facilities. Storage and treatment facility permitting, which is subject to the 1992 statutory deadline, will be accelerated. By the end of 1991, approximately 75% of the facilities subject to the deadline will have permits or permits being processed. The Regions will continue to process modifications to operating permits, which will require revisions due to changes in facility processes, facility expansions, and the need to incorporate corrective action provisions as remediation activities progress. The Regions will continue to review and approve adequate closure plans, and will process appeals to permit decisions as necessary.

The Regions will conduct municipal non-hazardous waste (Subtitle D) activities. The Regions will provide technical and financial support to states and other eligible organizations, such as municipalities and universities, that are interested in pursuing unique projects that will support the recycling and source reduction goals of the Agency's Agenda for Action. The Agenda calls for a national program to increase recycling of municipal refuse and greater attention to reducing the generation of solid wastes. The Agency will assist states as they revise statutes and regulations in accordance with the new national Subtitle D criteria, and will review state program revision packages. EPA will address large volume waste through targeted cooperative agreements with states to fund investigations of state mining waste programs.

Information management resources will fund implementation of a national data management system that will greatly expand EPA's and the states' ability to enter and retrieve information critical to successful program management. The Regions will increase technical assistance to states to develop and maintain Federally-equivalent hazardous waste management programs. This support from the Regions, along with funding available to the states through the Hazardous Waste Management Financial Assistance program, is designed to develop state capability to effectively manage hazardous waste programs. Almost all states will be authorized for the pre-Hazardous and Solid Waste Amendments (HSWA) program and these states will be working toward authorization for HSWA provisions such as corrective action.

1990 Program

In 1990, the Agency is allocating a total of $26,295,700 and 379.0 total workyears for this program, of which $9,779,700 is from the Abatement, Control and Compliance appropriation and $16,516,000 is from the Salaries and Expenses appropriation.

Permitting efforts are focused on completing determinations on incineration permit applications by the November 1989 deadline, continuing the processing of environmentally significant storage and treatment facility permits, and increasing emphasis on issuing permits to ensure adequate post-closure care of land disposal facilities. The Regions are completing the review and approval of land disposal facility closure plans in 1990.

The Regions are working jointly with the states on all aspects of the hazardous waste program. The Regions are processing those portions of permits for which states are not yet authorized, and are providing technical oversight of state activities. The Regions are supporting the enhancement of state capability by providing assistance with state regulatory and legislative development. This Federal/state relationship provides a framework for ensuring national program consistency and will ultimately allow states to run the hazardous waste program independently. The Regions are working with states and other organizations, through technical and financial assistance, to implement the recommendations of the Agency's solid waste Agenda for Action.

1989 Accomplishments

In 1989, the Agency obligated a total of $24,103,500 supported by 373.4 total workyears for this program, of which $15,769,900 was from the Salaries and Expenses appropriation and $8,333,600 was from the Abatement Control and Compliance appropriation.

In 1989, the Regions supported the states in the development of hazardous waste management programs equivalent to the Federal program. With 45 states authorized for the pre-HSWA program, the Agency focused on oversight and technical support activities. The Regions provided technical assistance to the states as they developed legislation and regulations consistent with the provisions of HSWA and with regulatory revisions to the Federal base program.

The Regions and states worked together to process permit applications containing HSWA provisions for which the states were not yet authorized. High priorities included processing the remainder of land disposal facility permit applications by the November 1988 deadline and processing a large number of incineration facility permits to work toward the November 1989 deadline.

HAZARDOUS WASTE

Emergency Planning Community Right To Know - Title III

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Emergency Planning Community Right To Know					
Salaries & Expenses	$2,087.3	$2,913.3	$2,628.3	$2,540.0	-$88.3
Abatement Control and Compliance	$1,923.7	$4,369.3	$4,313.5	$2,938.0	-$1,375.5
TOTAL	$4,011.0	$7,282.6	$6,941.8	$5,478.0	-$1,463.8
TOTAL:					
Salaries & Expenses	$2,087.3	$2,913.3	$2,628.3	$2,540.0	-$88.3
Abatement Control and Compliance	$1,923.7	$4,369.3	$4,313.5	$2,938.0	-$1,375.5
Emergency Planning Community Right To Know TOTAL	$4,011.0	$7,282.6	$6,941.8	$5,478.0	-$1,463.8
PERMANENT WORKYEARS					
Emergency Planning Community Right To Know	26.6	48.0	30.7	37.0	6.3
TOTAL PERMANENT WORKYEARS	26.6	48.0	30.7	37.0	6.3
TOTAL WORKYEARS					
Emergency Planning Community Right To Know	28.9	48.0	32.0	37.0	5.0
TOTAL WORKYEARS	28.9	48.0	32.0	37.0	5.0

Emergency Planning and Community Right-to-Know -- Title III

Budget Request

The Agency requests a total of $5,478,000 supported by 37.0 total workyears for 1991. Of the request, $2,540,000 will be for the Salaries and Expenses appropriation and $2,938,000 will be for the Abatement, Control and Compliance appropriation. These levels represent a total decrease of $1,463,800 and an increase of 5.0 workyears from 1990.

EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW -- TITLE III

1991 Program Request

The Agency requests a total of $5,478,000 supported by 37.0 total workyears for 1991. Of the request, $2,540,000 will be for the Salaries and Expenses appropriation and $2,938,000 will be for the Abatement, Control and Compliance appropriation. This represents a decrease of $88,300 for Salaries and Expenses, a decrease of $1,375,500 for Abatement, Control and Compliance and an increase of 5 total workyears from 1990. The increase in workyears will be allocated to enforcement. This will enable the Agency to assist state and local governments as they incorporate Title III enforcement into their institutional structure. Fewer dollar resources are needed due to completion of national training and technical assistance support.

The increase in enforcement resources will enable the Agency to begin to address noncompliance with the emergency planning provisions and release and inventory notification requirements of Sections 302, 303, 304, 311, and 312 of the Emergency Planning and Community Right-to-Know Act of 1986. The Agency will initiate, and conduct with the states wherever practical, a targeted number of routine facility inspections to assess compliance. The Agency will increase its emphasis on developing inspection targeting mechanisms, formalizing EPA/State enforcement agreements, and developing selected administrative and judicial penalty cases against violators identified through inspections, tips, and complaints to support compliance verification activities.

The program will continue to assist state and local governments in updating and improving their emergency response plans. The Agency will update emergency planning guidance, review and modify instructor training programs for state and local groups, develop and present workshops on chemical hazard assessment, and develop simulation exercises to test the plans. EPA will develop guidance materials to assist states and localities in interpreting community right-to-know reporting information, and will continue to provide assistance to Indian tribes as they implement Title III programs on Indian lands. The Agency will also continue to evaluate chemicals against the extremely hazardous substances list, issue guidance on communicating risk, and manage information generated by Title III Sections 311/312/313 reporting thresholds. Finally, EPA will continue to receive, process, and evaluate Title III trade secrecy claims.

1990 Program

The Agency is allocating a total of $6,941,800 supported by 32.0 total workyears, of which $2,628,300 is from the Salaries and Expenses appropriation and $4,313,500 is from the Abatement, Control and Compliance appropriation.

In 1990, the Agency is providing support to state and local governments in both emergency response planning and implementation activities. Since most of the Local Emergency Planning Committees responded to the 1989 statutory deadline to complete their initial emergency response plans, the Agency is providing states and priority area communities with guidance, technical assistance, and training to review, test, and update their plans. EPA is working with communities that do not yet have approved emergency response plans.

The Agency is beginning to conduct compliance inspections, field investigations, and cooperative enforcement projects with states. The Agency is identifying violators through these processes and is developing administrative enforcement cases to address the identified violations. EPA expects that Regions may handle thirty to fifty cases nationwide in 1990.

The Agency continues to evaluate chemicals against the additional criteria for the extremely hazardous substances list and is beginning a rulemaking action related to physical hazards that will continue into 1991. EPA is evaluating Title III Section 311/312 (community right-to-know) reporting thresholds, and will issue final regulations establishing threshold quantities. The Agency is also continuing to receive, process, and evaluate Title III trade secrecy claims. EPA is completing the final rules for implementing the Title III Indian policy. Finally, the Agency is planning a number of risk communication projects and activities to assist state, local, and tribal governments in interpreting Title III information. These projects will better enable the public to understand the risks involved with hazardous chemicals.

1989 Program

In 1989, the Agency obligated a total of $4,011,000 and 28.9 total workyears for this program, of which $2,087,300 was from the Salaries and Expenses appropriation and $1,923,700 was from the Abatement, Control and Compliance appropriation.

The Agency proposed regulations for implementing various sections of Title III, including rules for implementing Title III on Indian lands; two rules concerning the designation of extremely hazardous substances as CERCLA hazardous substances and adjusting their reportable quantities; and a proposed rule, followed by an interim final rule, on the community right-to-know threshold requirements.

In addition, EPA assisted state and local authorities in planning emergency response programs. The Agency published guidance on flammables and explosives, developed and presented training on the Technical Guidance for Hazards Analysis and distributed a publication highlighting Title III success stories. A program was also initiated to involve the medical community in the Title III emergency planning process.

Enforcement

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HAZARDOUS WASTE
Hazardous Waste Enforcement

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Hazardous Waste Enforcement					
Salaries & Expenses	$20,006.8	$21,250.6	$21,424.9	$29,160.0	$7,735.1
Abatement Control and Compliance	$19,871.4	$21,094.9	$20,595.8	$31,426.7	$10,830.9
TOTAL	$39,878.2	$42,345.5	$42,020.7	$60,586.7	$18,566.0
TOTAL:					
Salaries & Expenses	$20,006.8	$21,250.6	$21,424.9	$29,160.0	$7,735.1
Abatement Control and Compliance	$19,871.4	$21,094.9	$20,595.8	$31,426.7	$10,830.9
Hazardous Waste Enforcement TOTAL	$39,878.2	$42,345.5	$42,020.7	$60,586.7	$18,566.0
PERMANENT WORKYEARS					
Hazardous Waste Enforcement	436.4	489.5	453.4	575.7	122.3
TOTAL PERMANENT WORKYEARS	436.4	489.5	453.4	575.7	122.3
TOTAL WORKYEARS					
Hazardous Waste Enforcement	459.6	489.5	480.8	575.7	94.9
TOTAL WORKYEARS	459.6	489.5	480.8	575.7	94.9

Hazardous Waste Enforcement

Budget Request

The Agency requests a total of $60,586,700 supported by 575.7 total workyears for 1991, an increase of $18,566,000 and 94.9 total workyears from 1990. Of the request, $29,160,000 will be for the Salaries and Expenses appropriation and $31,426,700 will be for the Abatement, Control, and Compliance appropriation. This represents an increase of $7,735,100 for the Salaries and Expenses appropriation and an increase of $10,830,900 for the Abatement, Control, and Compliance appropriation.

HAZARDOUS WASTE ENFORCEMENT

1991 Program Request

The Agency requests a total of $60,586,700 supported by 575.7 total workyears for 1991, of which $29,160,000 will be for the Salaries and Expenses appropriation and $31,426,700 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $7,735,100 for Salaries and Expenses, an increase of $10,830,900 for Abatement, Control and Compliance, and an increase of 94.9 total workyears from the 1990 levels. The increase in dollars and total workyears will support the expanded workload associated with corrective action.

The level of corrective action activities will continue to grow at operating and environmentally significant closing facilities as more owner/operators initiate facility investigations, study possible remedies to releases and initiate interim or remedial measures to reduce the risk. The Agency will ensure that facilities requiring corrective action will be addressed on a risk-based priority system. Once facilities are selected for corrective action, appropriate methods for addressing these facilities will be chosen. These methods will generally include the permit/post-closure process or issuance of an administrative order. The Agency will oversee owners and operators to facilitate remedy selection and successful implementation. Headquarters will continue to offer training, including evaluation criteria to the Regions and the states in the selection of remedy process and in negotiation strategies.

The Agency will place increased emphasis on implementation of the land ban restrictions by increasing the number of inspections and oversight activity of small quantity generators. The Agency will develop policies to guide Regional and state inspections of newly regulated waste such as those covered under the organic toxicity characteristics rule and the hazardous waste fuel rule, as well as mixed waste, mining waste, and the wood preserving listings.

EPA will continue to institutionalize enforcement and inspection training and workshops. Through the use of interactive computer training and satellite-based training classes, the Resource Conservation and Recovery Act (RCRA)

Inspector Training Institute will continue to provide training to ensure a consistent inspection program. The inspectors' role in pollution prevention will be studied to determine if this function should be expanded to providing technical assistance to the regulated community.

The Agency will coordinate closely with the states to achieve a smooth implementation of the RCRA Information System (RCRIS), which emphasizes automated data transfer, wide accessibility, and standardized formats among the Regions, states, and Headquarters.

1990 Program

In 1990, the Agency is allocating a total of $42,020,700 supported by 480.8 total workyears, of which $21,424,900 is from the Salaries and Expenses appropriation and $20,595,800 is from the Abatement, Control and Compliance appropriation.

The Agency is developing inspection guidance and enforcement strategies for implementation of multi-media measures for disposal of hazardous waste. Guidance on the enforcement of new regulations on land disposal of the prohibited wastes as well as guidance for the detection of illegal disposal and special waste is being revised.

Increasingly, the Agency is focusing its corrective action resources to ensure that owner/operators are conducting facility investigations in compliance with the terms of permits and orders. The Agency is also monitoring the development of corrective measures plans to assure environmentally sound measures are proposed and implemented. EPA is giving priority for new facility investigations to environmentally significant closing and closed facilities as well as to permitted facilities.

The Agency is ensuring that state inspections are conducted biennially at all operating land disposal facilities and at closed land disposal and treatment and storage facilities, as required by policy and the expanding land ban regulations. Increased emphasis is being placed on grant guidelines to ensure a nationally consistent and effective state enforcement program, especially in the area of corrective action. The Agency is conducting annual inspections of state owned or operated treatment, storage, and disposal facilities as well as incinerator facilities. Facilities under an administrative order are receiving a follow-up inspection to ensure a return to compliance. The Agency is conducting additional inspections at commercial facilities to ensure that these facilities are managing off-site Superfund wastes in an environmentally safe manner.

1989 Accomplishments

In 1989, the Agency obligated a total of $39,878,200 supported by 459.6 total workyears, of which $20,006,800 was from the Salaries and Expenses appropriation, and $19,871,400 was from the Abatement, Control and Compliance appropriation.

Compliance monitoring and enforcement actions were taken against handlers that presented the greatest threat to human health and the environment. The facilities that had the greatest problems with releases or were in significant

non-compliance were addressed by administrative and judicial enforcement actions. Inspections and follow-up enforcement actions for the surface impoundment retrofit deadline of November 1988 continued to take place. The states and EPA conducted 13,182 inspections of Federal, state and local facilities that store, treat or dispose of hazardous waste, and inspections of commercial land disposal and treatment facilities were conducted twice a year to ensure compliance with the Superfund Off-Site Policy. Through technical enforcement support and state program evaluations, the Agency ensured that the states took timely and appropriate enforcement actions, and in some instances, the Agency initiated enforcement actions, for a combined total of 1,227 administrative orders issued. The Agency also brought enforcement actions for violations of HSWA provisions for which states were not authorized.

Corrective action resources supported initial assessments, studies, and corrective action oversight of permitted or permit track facilities, as well as facilities that had been issued an administrative order. Facility assessments were conducted at 174 treatment and storage facilities that were scheduled to be permitted in 1990.

6. Pesticides

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PESTICIDES

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
APPROPRIATION					
Salaries & Expenses	$41,938.7	$46,630.1	$45,366.7	$51,448.4	$6,081.7
Abatement Control and Compliance	$68,668.6	$53,577.5	$52,851.4	$50,538.7	-$2,312.7
Research & Development	$7,354.0	$6,724.6	$6,547.6	$8,085.6	$1,538.0
TOTAL, Pesticides	$117,961.3	$106,932.2	$104,765.7	$110,072.7	$5,307.0
PERMANENT WORKYEARS	796.4	993.3	957.3	1,091.7	134.4
TOTAL WORKYEARS	846.0	993.3	990.9	1,091.7	100.8
OUTLAYS	$87,286.2	$94,978.6	$97,548.0	$99,856.8	$5,308.8

AUTHORIZATION LEVELS: Authorization for the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) Amendments of 1988 reauthorized this program at a level of $83,000.0 for 1989, $95,000 for 1990 and $95,000 for 1991.

PESTICIDES

OVERVIEW AND STRATEGY

Pesticides can be both beneficial and hazardous substances. Pesticide products provide benefits to society, contributing to agricultural productivity and controlling human diseases, yet they are inherently hazardous since they are specifically formulated to be injurious to living target organisms and deliberately introduced into the environment for that purpose.

EPA's authority to regulate pesticides is set forth in two statutes. The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) governs the licensing or registration of pesticide products. Sections 408 and 409 of the Federal Food, Drug and Cosmetic Act (FFDCA) regulate the level of pesticide residues in raw and processed agricultural commodities.

FIFRA. Under FIFRA, all pesticides must be registered with EPA before they may be sold or distributed in commerce. EPA operates under an overall risk/benefit standard for pesticide registration. Pesticides must perform their intended function when used according to label directions, without posing unreasonable risks of adverse effects on human health or the environment. In making pesticide registration decisions, EPA is required to take into account the economic, social, and environmental costs and benefits of pesticide use. This is a task of enormous scope and complexity. Three billion pounds of pesticide active ingredients are used annually in this country, representing over 1,000 different active ingredients and 26,000 products.

Recent legislation has substantially amended FIFRA. The FIFRA Amendments of 1988 (signed into law on October 25, 1988) strengthened the Agency's authority in the following areas:

- The 1988 amendments accelerate the reregistration process for previously registered pesticides by requiring completion of this task within nine years. Pesticide registrants are responsible for supplying complete test data bases necessary for EPA to make pesticide reregistration decisions. Both industry and EPA must act within specific deadlines.

- Under the expedited registration provisions, which have short statutory deadlines, EPA is required to give accelerated consideration to applications for initial or amended registration of products which are similar to pesticides already registered with EPA.

- The law authorizes the collection of fees to support reregistration activities. Two kinds of fees are being collected: a one-time reregistration fee for each active ingredient, and an annual fee for registration maintenance to be paid for each registered product. These fees finance the FIFRA revolving fund which provides funding support for both staff and contractor personnel.

- EPA's responsibilities and funding requirements are substantially revised in the areas of storage and disposal of pesticides whose registrations have been suspended and cancelled. The law also places limitations on the availability of funding to indemnify certain owners of pesticides whose

registrations have been suspended and cancelled.

FFDCA. Under the FFDCA, EPA sets tolerances, or maximum legal limits, for pesticide residues on food commodities marketed in the U.S. Before a pesticide can be registered under FIFRA for use on a food or feed crop, EPA must either establish a tolerance or, if appropriate, grant an exemption from the tolerance requirement.

In cooperation with other EPA offices, the pesticide program will undertake initiatives to address pollution prevention and the growing concern for food safety. The Agency will also augment the 1990 initiative to build Regional/state capabilities to protect ground water, workers exposed to pesticides, and endangered species, and implement revised Certification and Training (C&T) regulations.

In addition, EPA will continue to place high priorities on implementing the 1988 FIFRA amendments, continuing a commitment to ensure that regulatory decisions are based on the best available science, and continuing programs that emphasize risk reduction and safer pesticides.

The Agency's 1991 pesticide regulation program includes the following elements: 1) registration of new products and control of pesticide residues in the food chain, 2) review and reregistration of existing products, 3) encouragement of correct uses of pesticides, 4) the enforcement of pesticide regulations, 5) research and development to support and improve EPA's ability to evaluate the risks and benefits of pesticides, and 6) consulting services.

1. Registration Activities

FIFRA and FFDCA authorize EPA to set the terms and conditions of pesticide registration, marketing, and use. Under the registration program, new pesticide products are registered on the basis of data reviewed by Agency scientists, and current registrations are amended to add new uses and/or new formulations. Manufacturers are required to conduct a full range of health and environmental testing before marketing their new products. This testing uses sophisticated methodology and techniques, enabling the Agency to more accurately determine the potential for ground-water contamination, residues on food or feed, worker and applicator exposure, environmental risks, and chronic and acute health hazards. In order to reduce the level of risk associated with use of approved chemicals, EPA may restrict the use of these chemicals to trained, certified applicators; and prescribe label precautions, special packaging requirements, and application directions, including prescribed intervals between application and harvest or worker reentry into the fields.

The registration program also includes special registration and tolerance-setting activities. The special registration program continues to perform an auxiliary function by permitting certain uses of unregistered pesticide for experimental purposes and emergency pest situations. It also provides oversight and guidance to state registration and experimental use permit functions. The tolerance program establishes safe and enforceable maximum permissible residue levels (or, in some instances, exemptions from tolerance requirements) for both active and inert pesticide ingredients in or on raw agricultural commodities and processed foods.

Special emphases for 1991 include (1) giving high priority to implementing the FIFRA amendments of 1988, which requires expedited consideration of applications for registrations of products which are similar to pesticides already registered, (2) continuing to give priority consideration to newer, safer chemicals and uses which may replace more hazardous chemicals and uses, (3) giving special attention to biochemical and microbial agents, and (4) evaluating impacts on ground water, workers, and endangered species during registration reviews.

2. Generic Chemical Review (including Reregistration)

The registrations of the majority of existing pesticide chemicals are supported by data bases which the Agency believes should be updated to today's more advanced scientific standards to support the required determination that "no unreasonable adverse effects" are presented by a specific pesticide. The Generic Chemical Review program is designed to remedy this problem by requiring the upgrading of the scientific data base supporting registrations, reviewing available data about each chemical, and formulating scientifically based regulatory positions to guide the modification, cancellation, or reregistration of existing products and the registration of new products. The 1988 FIFRA amendments contain provisions for a greatly accelerated five-phase reregistration program, expedited processing of certain types of registration applications, a system for collecting and administering fees, and significant revisions to the indemnification and disposal program for pesticides suspended and cancelled after enactment of the 1988 amendments. The fees mandated by these amendments are to be used to supplement appropriated funds to carry out reregistration and expedited processing.

The Generic Chemical Review program contributes to the safety of the food supply, through the reregistration program and special reviews, in which pesticides suspected of causing unreasonable adverse effects undergo intensive risk/benefit analysis, which may result in changes to the terms and conditions of their use or cancellation of their registration.

Highlights of the 1991 program include:

- The Food Safety Initiative, begun in 1990, will be continued in 1991. It will include developing better scientific data on special tolerance and residue issues, conveying scientific information on risks to the public in understandable terms, and using improved risk information in regulatory decisions. This initiative will strengthen EPA's ability to make decisions on pesticides based on scientific risk assessments, and educate the public on the reasons for these decisions.

- The completion of the National Pesticide Survey will provide data to be used to refine the Agricultural Chemicals in Ground-Water Strategy. The Strategy will be used to evaluate approaches to protecting ground water at the state and Regional level.

- The disposal program will continue safe storage of stocks of 2,4,5-T/Silvex. Disposal will be initiated after a facility is permitted and available to the EPA to accept pesticide stocks for incineration.

- The Agency is also proposing legislation to reinstate collecting fees for Pesticides Registration of the start of FY 1991.

- Five pollution prevention projects will be funded as part of the EPA wide program. They will address ground-water contamination in corn growing areas, inert ingredients in pesticides, a hazard index for the Chesapeake Bay watershed, a decision support system applicable to ground-water problems, and bioregulation.

- EPA will continue to give high priority to implementation of the 1988 FIFRA amendments, including the accelerated reregistration program, expedited processing of certain types of registration applications, collecting fees and administering the revolving fund.

3. Pesticides Program Implementation

Under this program EPA promotes the correct uses of pesticides. To achieve this goal EPA sets up cooperative agreements with State Lead Agencies to certify applicators to use Restricted Use Pesticides. EPA provides grants to the states to support this activity. Certification grants help support 53 applicator certification programs in participating states and territories and Federally administered programs in Colorado and Nebraska. EPA also has an interagency agreement with USDA to provide training to pesticide applicators by working through State Cooperative Extension Services (SCES).

After publication of revised C&T Regulations, which will strengthen the C&T program in the areas of record keeping, training, continuing education, and supervision of applicators, states will begin implementation.

In 1991, the Agency will continue the initiative begun in 1990, to place emphasis on building Regional/state capabilities to address the areas of protecting ground water, workers occupationally exposed to pesticides, endangered species, and strengthened C&T programs. States, with the guidance and assistance of the Regional offices, will develop and implement management strategies tailored to the particular circumstances in the states. Elements of the management strategies include: outreach, monitoring, development of training materials, and coordination with the C&T Program.

4. Pesticides Enforcement

The enforcement provisions of FIFRA are carried out primarily through the cooperative efforts of the states and territories, under a program of Federal-state cooperative enforcement agreements established with EPA. Participating states and territories conduct use inspections, inspect pesticide-producing establishments, maintain marketplace surveillance, and inspect dealers and users of restricted-use pesticides. In most instances in which violations are detected, the states and territories develop and prosecute enforcement cases as appropriate. In limited numbers of cases, states and territories may refer cases to EPA for action. The Agency encourages the states and territories to design and operate their enforcement programs so as to place greatest emphasis upon compliance with the use provisions of FIFRA, thereby producing the greatest environmental benefit. The Agency will continue to support and manage these cooperative efforts in 1991.

The Agency conducts Federal pesticides compliance monitoring programs in cases in which states or territories are unable or unwilling to support comprehensive compliance monitoring programs of their own. Federal programs in such instances include use investigations, import and export surveillance, and the preparation and prosecution of enforcement cases. Other activities that are exclusively the responsibility of the Agency include providing technical and compliance assistance to the states, the regulated community and the public, and operating an automated data system which maintains information on compliance inspections, enforcement actions, and pesticide production. In 1991, the Agency will also emphasize such areas as ground-water contamination, farmworker protection, development of state enforcement response policies under FIFRA Sections 26 and 27, and tracking and enforcement of compliance with pesticide registration requirements.

5. Research and Development

The FY 1991 Office of Research and Development (ORD) request for pesticides research and development will continue to support the Office of Pesticides Programs (OPP) by performing research in the areas of test method development and validation; biomarkers, dosimetry and extrapolation; exposure monitoring; environmental engineering and technology; ecology (both fate and transport and risk assessment); and biotechnology. In addition, ORD will continue to provide technical support to OPP in exposure assessment and monitoring procedures and risk assessment methodologies for oncogenicity, mutagenicity and reproductive and developmental toxicity. New research will be performed in the areas of ecological risk, pollution prevention and biotechnology.

6. Consulting Services

Consulting services are utilized by the Agency to support the Scientific Advisory Panel which, in accordance with section 25(d) of FIFRA, provides comments, evaluations and recommendations on actions and regulations proposed by the Agency. By using these services, which are funded from the Salaries and Expenses appropriation, the Agency can ensure that its regulatory program continues to be based on sound science.

	Actual 1989	Current Estimate 1990	Estimate 1991	Increase+ Decrease- 1991 vs. 1990
PROGRAM ACTIVITIES				
Incremental Outputs				
Special Review Decisions.....	9	13	13	---
New Chemical and Biochemical/ Microbial Agent Reviews....	321	330	330	---
Old Chemical Reviews.....	5,290	3,850	3,850	---
Amended Registration Reviews.....	8,828	4,560	4,560	---
New Use Reviews.....	335	300	300	---
Emergency Exemption Reviews.....	404	250	250	---
Experimental Use Permit Reviews.....	309	400	400	---
24(c) State Registration Reviews.....	890	475	475	---
Temporary Tolerance Petition Reviews.....	77	150	150	---
Tolerance Petition Reviews.....	444	475	475	---
Inert Ingredient Reviews.....	7	60	60	---
Producer Establishment Inspections a/.....	1,594	2,509	2,779	+270
Use/Reentry and Experimental Use Observations a/.....	12,843	18,829	19,369	+540
Marketplace Investigations a/.....	5,947	4,035	4,305	+270
Import Inspections a/.....	433	475	4,975	+4,500

	Actual 1989	Current Estimate 1990	Estimate 1991	Increase+ Decrease- 1991 vs. 1990
PROGRAM ACTIVITIES				
Incremental Outputs				
State Applicator License and Record Inspections.....	7,130	8,200	8,450	+250
State Dealer Record Inspections.....	3,981	4,450	4,600	+150
State Disposal, Storage, Transportation, and Recall Inspections.....	---	---	5,000	+5,000
Federal Laboratory Inspections.....	47	80	80	---
Test Study Audits.....	219	437	412	-25
Registration Standard Guidance Packages Established.....	14	---	---	---
Reregistration Standards.....	9	10	50	+40

a/ Includes both Federal and State enforcement activities

Research and Development

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PESTICIDES
Pesticides Research

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Scientific Assessment - Pesticides					
Salaries & Expenses	$129.8	$144.3	$142.4	$296.5	$154.1
Research & Development	$1.2				
TOTAL	$131.0	$144.3	$142.4	$296.5	$154.1
Monitoring Systems & Quality Assurance Pesticides					
Salaries & Expenses	$370.4	$349.1	$344.5	$480.5	$136.0
Research & Development	$918.8	$942.4	$916.5	$961.3	$44.8
TOTAL	$1,289.2	$1,291.5	$1,261.0	$1,441.8	$180.8
Health Effects - Pesticides					
Salaries & Expenses	$2,140.7	$2,295.4	$2,210.2	$2,577.2	$367.0
Research & Development	$1,620.9	$1,789.8	$1,729.1	$1,976.3	$247.2
TOTAL	$3,761.6	$4,085.2	$3,939.3	$4,553.5	$614.2
Environmental Engineering And Technology - Pesticides					
Salaries & Expenses	$153.8	$114.0	$124.6	$204.9	$80.3
Research & Development	$1,988.5	$406.7	$384.3	$138.0	-$246.3
TOTAL	$2,142.3	$520.7	$508.9	$342.9	-$166.0
Environmental Processes & Effects - Pesticides					
Salaries & Expenses	$3,113.7	$3,802.0	$3,242.4	$3,761.4	$519.0
Research & Development	$2,824.6	$3,585.7	$3,517.7	$5,010.0	$1,492.3
TOTAL	$5,938.3	$7,387.7	$6,760.1	$8,771.4	$2,011.3
TOTAL:					
Salaries & Expenses	$5,908.4	$6,704.8	$6,064.1	$7,320.5	$1,256.4
Research & Development	$7,354.0	$6,724.6	$6,547.6	$8,085.6	$1,538.0
Pesticides Research TOTAL	$13,262.4	$13,429.4	$12,611.7	$15,406.1	$2,794.4
PERMANENT WORKYEARS					
Scientific Assessment - Pesticides	1.4	1.5	1.5	1.5	0.0
Monitoring Systems & Quality Assurance Pesticides	5.8	5.7	5.7	5.2	-.5
Health Effects - Pesticides	32.6	39.5	39.5	39.5	0.0

PESTICIDES
Pesticides Research

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)			
Environmental Engineering And Technology - Pesticides	2.3	2.0	2.0	1.1	-.9
Environmental Processes & Effects - Pesticides	54.9	62.7	60.7	62.7	2.0
TOTAL PERMANENT WORKYEARS	97.0	111.4	109.4	110.0	.6
TOTAL WORKYEARS					
Scientific Assessment - Pesticides	1.4	1.5	1.5	1.5	0.0
Monitoring Systems & Quality Assurance Pesticides	6.0	5.7	5.7	5.2	-.5
Health Effects - Pesticides	38.8	39.5	39.5	39.5	0.0
Environmental Engineering And Technology - Pesticides	2.7	2.0	2.0	1.1	-.9
Environmental Processes & Effects - Pesticides	59.6	62.7	60.7	62.7	2.0
TOTAL WORKYEARS	108.5	111.4	109.4	110.0	.6

PESTICIDES

Pesticides Research

Principal Outputs by Objective

Objective 1: Develop and Validate Test Methods for FIFRA Studies

1991: o Develop in-vitro neurotoxicology test methods for the identification and characterization of neurotoxic pollutants (Health).

o Report on teratogenic responses in *Menidia berryllina* embryos for environmental assessment: Estuarine, freshwater and hazardous waste sites (Environmental Processes).

1990: o Report on the immunotoxicology methods development and validation in the rat (Health).

1989: o Assessment of neurotoxicity in workers occupationally exposed to organophosphorus pesticides: A neurobehavioral and biochemical study (Health).

Objective 2: Perform Health Research on Biological Markers, Dosimetry and Extrapolation

1991: o Development of neurobehavioral testing strategy for use in Pesticide Guidelines (Health).

o Report on biomarkers and dosimetry research activity for exposure monitoring (Monitoring).

Objective 3: Perform Ecological Research Including Transport, Fate and Field Validation

1991: o Role of estuarine sediments in the biodegradation of anthropogenic chemicals (Environmental Processes).

o Validation of pesticide effects on fish growth under field exposure conditions (Environmental Processes).

1990: o Report on field censusing techniques for large scale avian field studies (Environmental Processes).

o Fish reproductive success studies for littoral enclosures (Environmental Processes).

o Report on sorption of water soluble ionic pesticides to soils and sediments (Environmental Processes).

1989: o Final Doughtery Plain report including pesticide groundwater threat assessment method (Environmental Processes).

Objective 4: Perform Engineering Research in Support of FIFRA

1991: o Summary report of assistance activities to OPP for the pesticides: EDB, Dinoseb and Silvex (Engineering).

o Guidance manual for selecting protective clothing for agriculture pesticide operations (Engineering).

1990: o Report on the effects of co-firing chlorinated wastes with high nitrogen compounds on NOx emissions (Engineering).

o A review of peer-reviewed literature/data for the treatability of pesticides from water, wastewater, and soils (Engineering).

o Release of a protective-clothing training video visibly showing the dermal exposure possible when proper protective clothing is not used during outdoor handling/use operations (Engineering).

1989: o Report on the performance results of a pilot-scale trial burn of Dinoseb pesticide formulations (Engineering).

o Report on performance results of full-scale incineration operations of EDB inventory disposal (Engineering).

o Report providing data on greenhouse-applicator worker exposure to several pesticides and the penetration resistance of their protective clothing to these compounds (Engineering).

Objective 5: Perform Exposure Monitoring Research

1991: o Pesticides exposure to urban and suburban pesticides in children (Monitoring)

Objective 6: Perform Research on Biotechnology and Microbial and Biochemical Pest Control Agents

1991: o Report on efficacy of enclosed multi-species test systems in determining effects of microbial pest control agents in non-target species (Environmental Processes).

o Report on exposure of field applications of biological agents used as agricultural pesticides (Monitoring).

1990: o Synthesis report on test methods for BCAs to avians (Environmental Processes).

o Laboratory methods for appraising the safety of a microbial pest control agent in freshwater systems (Environmental Processes).

1989: o Report on dispersal of BCAs released into the atmosphere (Environmental Processes).

o Report on protocols for exposing freshwater fish and invertebrates to a fungal pest control agent (Environmental Processes).

o Report on the evaluation of mammalian cell culture test protocols for viral pesticide agents (Health).

Objective 7: Perform Studies on Ecotoxicity and Develop Environmental Risk Assessment Protocols

1990: o Users manual for updated TEAM Model (Environmental Processes).

o Final report on resistance and resilience of pond ecosystems to toxicant stress (Environmental Processes).

1989: o Final report on biological data base for risk assessment (Environmental Processes).

o Report on effects of xenobiotics on the macroinvertebrates in a seagrass community ecosystem (Environmental Processes).

Objective 8: Provide Support Services for FIFRA Activities

1991: o Annual report on the Pesticides and Industrial Chemicals Repository (Monitoring).

1990: o Annual report on the Pesticides and Industrial Chemicals Repository (Monitoring).

PESTICIDES

Pesticides Research

Budget Request

The Agency requests a total of $15,406,100 supported by 110.0 total workyears for 1991, an increase of $2,794,400 and 0.6 total workyears from 1990. Of the request, $7,320,500 will be for the Salaries and Expenses appropriation and $8,085,600 will be for the Research and Development appropriation, an increase of $1,256,400 and $1,538,000, respectively.

Program Objectives

The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and the Federal Food, Drug and Cosmetics Act (FFDCA) require the regulation of pesticide use to avoid unreasonable adverse effects to public health and the environment. The research program improves our understanding of how pesticides interact with human activities and the environment, to assure that their use minimizes damage from pests, while maximizing the protection of man's food, health and the environment.

Objective 1: Develop and Validate Test Methods for FIFRA Studies. This research develops and validates environmental and health test methods for use by industry to assist them in meeting pesticide registration requirements and enforcement responsibilities under Sections 3 and 26 of FIFRA.

Objective 2: Perform Health Research on Biological Markers, Dosimetry, and Extrapolation. This research develops methods for extrapolating from high to low doses between mammalian species, evaluates dermal penetration of pesticides and examines chemical structure activity relationships. Biological markers are evaluated and tested to determine their potential use in exposure monitoring studies. This information is used by the Agency to evaluate pesticide data submitted by industry as part of the registration and re-registration process.

Objective 3: Perform Ecological Research Including Transport, Fate and Field Validation. This research validates laboratory studies by quantifying pesticide effects through field testing in order to evaluate mortality, reproduction and recovery potential of fishes, invertebrates, birds and other organisms. This approach allows comparison between laboratory studies and actual field results. This research also investigates the movement of pesticides through the environment in order to determine the eventual disposition of pesticides in the environment.

Objective 4: Perform Engineering Research in Support of FIFRA. This research provides worker-safety and disposal information for the handling, application, and disposal of pesticides, and to provide the technical basis to support the Office of Pesticides Programs' (OPP) regulatory needs under FIFRA.

Objective 5: Perform Exposure Monitoring Research. This research develops equipment and specialized monitoring protocols and procedures for total human exposure monitoring, pesticide exposure to characterize sources, and routes of

exposure for national pesticide monitoring efforts.

Objective 6: Perform Research on Biotechnology and Microbial and Biochemical Pest Control Agents. This research evaluates the effects of microbial and biochemical pest control agents (MBPCAs) and products of biotechnology on humans and the environment to support registration activities of OPP.

Objective 7: Perform Studies on Ecotoxicity and Develop Environmental Risk Assessment Protocols. This research provides the means to determine the risk posed to actual ecosystems by environmental pollutants by determining critical endpoints and devising mathematical models in order to predict impacts. This research will provide risk assessment protocols and guidelines for use in determining potential effects to terrestrial and aquatic ecosystems.

Objective 8: Provide Support Services for FIFRA Studies. This activity provides support to risk and exposure assessments by providing quality assurance materials and reference compounds for pesticide residue analyses.

SCIENTIFIC ASSESSMENT

1991 Program Request

The Agency requests a total of $296,500 supported by 1.5 total workyears for this program, all of which will be in the Salaries and Expenses appropriation. This represents an increase of $154,100 which reflects increased personnel and support costs. There is no change in total workyears.

Provide Support Services for FIFRA Activities. The Scientific Assessment program will continue to prepare and review health risk assessments for carcinogenicity, mutagenicity, adverse reproductive/ developmental effects and exposure to support OPP implementation of FIFRA Section 3 provisions for evaluating risk from pesticides use. Support will also be provided for laboratory data audits.

1990 Program

In 1990, the Agency is allocating a total of $142,400 supported by 1.5 total workyears for this program, all of which is from the Salaries and Expenses appropriation.

This research program will continue to prepare and review health risk assessments and provide support for laboratory data audits.

1989 Accomplishments

In 1989, the Agency obligated a total of $131,000 supported by 1.4 total workyears for this program, of which $129,800 was from the Salaries and Expenses appropriation and $1,200 was from the Research and Development appropriation.

In 1989, major activities included support for laboratory data audits, consultation and review of EBDC/ETU assessments and data reviews on bromoxynil, propargate, larvadex, and melesystox.

MONITORING SYSTEMS AND QUALITY ASSURANCE

1991 Program Request

The Agency requests a total of $1,441,800 supported by 5.2 total workyears for this program, of which $480,500 will be in the Salaries and Expenses appropriation and $961,300 will be in the Research and Development appropriation. This represents an increase of $136,000 in the Salaries and Expenses appropriation and $44,800 in the Research and Development appropriation. There is a decrease of 0.5 total workyears. The increase in the Research and Development appropriation is due to new pollution prevention research on ground water contamination, establishing a pesticide index and registry for the Chesapeake Bay, and the reduction of pesticide applications through bioregulation. The increase in the Salaries and Expenses appropriation reflects increased personnel and support costs. The decrease in total workyears reflects a realignment of resources to support higher priorities within the Agency.

Develop and Validate Test Methods for FIFRA Studies. Monitoring methods and strategies will be developed for determining the effect of agricultural pesticide usage on the quality of surface and ground water systems. Research will focus on identifying factors for ground water susceptibility.

Perform Health Research on Biological Markers, Dosimetry and Extrapolation. Biological markers will be evaluated as sensitive indicators of exposure. Candidate biological markers will be selected. Laboratory studies will estimate the capability of these techniques to serve as indicators of exposure.

Perform Exposure Monitoring Research. This research will utilize total human exposure monitoring of pesticides to assess exposure of lawn and garden pesticides. Emphasis will be on exposure to toddlers and children.

Perform Research On Biotechnology and Microbial and Biochemical Pest Control Agents. Protocols for use in regulatory decision-making concerning identification, fate and survival of biological agents, including recombinant DNA will be developed.

Provide Support Services for FIFRA Activities. Quality assurance in sample collection and analysis procedures will be provided. This will include oversight of the Pesticides Repository, research on the selection of representative samples, and how to optimize instrument settings for data analysis.

1990 Program

In 1990, the Agency is allocating a total of $1,261,000 supported by 5.7 total workyears for this program, of which $344,500 is from the Salaries and Expenses appropriation and $916,500 is from the Research and Development appropriation.

In 1990, a coordinated research effort will identify and test biological markers of exposure to priority pesticide chemicals. Protocols and methodologies for total human exposure monitoring for pesticides will be provided. Research will emphasize dermal exposure in children. Efforts will focus on privatizing the Pesticide Repository.

1989 Accomplishments

In 1989, the Agency obligated a total of $1,289,200 supported by 6.0 total workyears for this program, of which $370,400 was from the Salaries and Expenses appropriation and $918,800 was from the Research and Development appropriation.

In 1989, the final portion of the Non-Occupational Pesticide Exposure Study (NOPES) on exposure to common household pesticides was completed. Candidate biological markers were selected for further study. Efforts were initiated to privatize the Pesticide Repository.

HEALTH EFFECTS

1991 Program Request

The Agency requests a total of $4,553,500 supported by 39.5 total workyears for this program, of which $2,577,200 will be for the Salaries and Expenses appropriation and $1,976,300 will be for the Research and Development appropriation. This represents an increase of $367,000 in the Salaries and Expenses appropriation and $247,200 in the Research and Development appropriation. There is no change in total workyears. The Salaries and Expenses appropriation increases reflect increased personnel and support costs. The increase in the Research and Development appropriation will be used to fund expanded research in biotechnology.

Develop and Validate Test Methods for FIFRA Studies. Health effects research will develop and refine bioassays for the detection of adverse developmental, reproductive, mutagenic, carcinogenic, neurotoxic and immunotoxic effects for use by industry as part of FIFRA Section 3 evaluation of risks.

Perform Health Research on Biological Markers, Dosimetry and Extrapolation. Research will develop models to assess health risk assessment predictability and will focus on methods development for extrapolating results of animal toxicity studies into risk estimates for humans. Studies will include the comparison of in-vivo and in-vitro methods for estimating pesticide dermal absorption, metabolic differences between species, and investigating the relationship between maternal health and fetal susceptibility to teratogenic outcome. These models will assist in the evaluation of pesticides data submitted as part of the registration and re-registration process.

Perform Research on Biotechnology and Microbial and Biochemical Pest Control Agents. To support microbial pesticide registration, testing protocols will be developed for detecting, identifying, and monitoring microbial agents in mammalian cells. Research will evaluate FIFRA Subdivision M infectivity guidelines for microbial agents, and detecting health effects from exposure to genetically engineered pesticides.

1990 Program

In 1990, the Agency is allocating a total of $3,939,300 supported by 39.5 total workyears for this program, of which $2,210,200 is from the Salaries and Expenses appropriation and $1,729,100 is from the Research and Development appropriation.

In 1990, data on the effects of microbial and biochemical pest control agents and genetically engineered pesticides will be provided. Methods to detect adverse alterations in the reproductive processes in animals to allow for more accurate evaluations of reproductive development and function are being developed. Research to develop animal models to assess health risks caused by pesticides is being performed.

1989 Accomplishments

In 1989, the Agency obligated a total of $3,761,600 supported by 38.8 total workyears for this program, of which $2,140,700 was from the Salaries and Expenses appropriation and $1,620,900 was from the Research and Development appropriation.

In 1989, activities the included assessment of neurotoxicity in workers occupationally exposed to organophosphorus pesticides, and an evaluation of mammalian cell test protocols for viral pesticide agents.

ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

1991 Program Request

The Agency requests a total of $342,900 supported by 1.1 total workyears for this program, of which $204,900 will be in the Salaries and Expenses appropriation and $138,000 will be in the Research and Development appropriation. This represents an increase of $80,300 in the Salaries and Expenses appropriation, a decrease of $246,300 in the Research and Development appropriation and a decrease of 0.9 total workyears. The decreases reflect the completion of a significant portion of research on the destruction/disposal technologies for indemnified pesticides and the evaluation of protective clothing for agricultural workers. The Salaries and Expenses appropriation increases reflect increased personnel and support costs.

Perform Engineering Research in Support of FIFRA. States and other Federal agencies will be assisted in evaluating proposed pesticide disposal and treatment methods. To support FIFRA-mandated container recycling programs, field-test methods for demonstrating adequate clean-up will be developed. A database to support pesticide treatment is being updated. Protective glove-selection protocols based on permeation data and field-use effectiveness of protective clothing for agricultural workers will be published.

1990 Program

In 1990, the Agency is allocating a total of $508,900 supported by 2.0 total workyears for this program, of which $124,600 is from the Salaries and Expenses appropriation and $384,300 is from the Research and Development appropriation.

In 1990, guidance on the use of protective apparel for commercial users of agricultural pesticides will be completed. Research on disposal/destruction technologies including container re-use capability continues.

1989 Accomplishments

In 1989, the Agency obligated a total of $2,142,300 supported by 2.7 total workyears for this program, of which $153,800 was from the Salaries and Expenses appropriation and $1,988,500 was from the Research and Development appropriation.

In 1989, a report on greenhouse workers exposure to several of their most used pesticides and the penetration resistance of their protective clothing was published.

ENVIRONMENTAL PROCESSES AND EFFECTS

1991 Program Request

The Agency requests a total of $8,771,400 supported by 62.7 total workyears for this program, of which $3,761,400 will be for the Salaries and Expenses appropriation and $5,010,000 will be for the Research and Development appropriation. This represents increases of $519,000 and $1,492,300, respectively, and an increase of 2.0 total workyears. The increase in the Salaries and Expenses appropriation reflects increased personnel and support costs. The increase in the Research and Development appropriation and workyears will support new research in pollution prevention, eco-risk assessments and additional biotechnology research.

Develop and Validate Test Methods for FIFRA Studies. Ecological effects studies will develop and revise test methods according to the margin of error attributed to environmental influences. Methods will be devised to investigate chemical, toxicological and teratogenic properties. This research will provide standardized testing or monitoring protocols and a variety of test organisms and life stages as bioindicators for testing pesticide hazard and risk.

Perform Ecological Research Including Transport, Fate and Field Validation. Ecological field and laboratory studies will be developed and validated for standardized testing and monitoring protocols to predict pesticide transport, degradation, exposure, and fate in marine organisms. Studies include life cycle tests and physiological measurements to predict toxicity, and to determine factors controlling chronic and acute testing results.

Perform Research on Biotechnology and Microbial and Biochemical Pest Control Agents. Research will develop and improve bioassays for determining effects of microbial pest control agents on non-target organisms. Parameters such as routes of exposure, detection methods, identification schemes, virulence, toxicity, and infectivity are evaluated through bioassays. To fully characterize potential environmental consequences of altered microbial pest control agents (MPCAs) and genetically altered biological control agents (BCAs), research needs to be conducted to better understand the movement, survival and mode of action on receptor organisms. Research results will support modifications of testing protocols for Subpart M guidelines used by industry to provide registration data.

Perform Studies on Ecotoxicity and Develop Environmental Risk Assessment Protocols. Mathematical models, support data bases, and protocols for assessing ecosystem exposure and hazards will be arranged in a database structure. This will accelerate completion of ecological risk assessments. Pesticide release,

transport, and transformation parameters will be adapted to dependent ecological models. Standardized descriptors for use in risk assessment will be developed for biotic effects of pesticides on populations, communities, and ecosystems.

1990 Program

In 1990, the Agency is allocating a total of $6,760,100 supported by 60.7 total workyears for this program, of which $3,242,400 is from the Salaries and Expenses appropriation and $3,517,700 is from the Research and Development appropriation.

In 1990, this research program includes development of test methods in support of FIFRA guidelines, performs research on transport, fate and field validation, the effects of biological pest control agents, and develop risk assessment techniques.

1989 Accomplishments

In 1989, the Agency obligated a total of $5,938,300 supported by 59.6 total workyears for this program, of which $3,113,700 was from the Salaries and Expenses appropriation and $2,824,600 was from the Research and Development appropriation.

In 1989, the final Doughtery Plains report including pesticide groundwater threat assessment methodology was completed.

Abatement and Control

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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PESTICIDES
Registration, Special Registration & Tolerances

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
			(DOLLARS IN THOUSANDS)		
PROGRAM					
Registration, Special Registration, and Tolerances					
Salaries & Expenses	$13,199.5	$13,967.5	$13,640.6	$14,900.8	$1,260.2
Abatement Control and Compliance	$2,980.2	$2,970.0	$2,932.1	$3,016.7	$84.6
TOTAL	$16,179.7	$16,937.5	$16,572.7	$17,917.5	$1,344.8
TOTAL:					
Salaries & Expenses	$13,199.5	$13,967.5	$13,640.6	$14,900.8	$1,260.2
Abatement Control and Compliance	$2,980.2	$2,970.0	$2,932.1	$3,016.7	$84.6
Registration, Special Registration & Tolerances TOTAL	$16,179.7	$16,937.5	$16,572.7	$17,917.5	$1,344.8
PERMANENT WORKYEARS					
Registration, Special Registration, and Tolerances	247.3	265.9	254.5	265.9	11.4
TOTAL PERMANENT WORKYEARS	247.3	265.9	254.5	265.9	11.4
TOTAL WORKYEARS					
Registration, Special Registration, and Tolerances	264.1	265.9	265.9	265.9	0.0
TOTAL WORKYEARS	264.1	265.9	265.9	265.9	0.0

PESTICIDES

Registration, Special Registration, and Tolerances

Budget Request

The Agency requests a total of $17,917,500 supported by 265.9 total workyears for 1991, an increase of $1,344,800 and no change in total workyears from 1990. Of the request, $14,900,800 will be for the Salaries and Expenses appropriation and $3,016,700 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $1,260,200 in the Salaries and Expenses appropriation and an increase of $84,600 in the Abatement, Control and Compliance appropriation.

REGISTRATION, SPECIAL REGISTRATION, AND TOLERANCES

1991 Program Request

The Agency requests a total of $17,917,500 supported by 265.9 total workyears for this program, of which $14,900,800 will be for the Salaries and Expenses appropriation and $3,016,700 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $1,260,200 in the Salaries and Expenses appropriation, an increase of $84,600 in the Abatement, Control and Compliance appropriation, and no change in total workyears. The increase in the Salaries and Expenses appropriation reflects increased personnel and support costs. The increase in the Abatement, Control and Compliance appropriation reflects increased emphasis on new chemicals and groundwater protection.

In 1991, the Agency expects to conduct 330 reviews of new chemicals and biochemical/microbial agents, 3,850 reviews of old chemicals, 4,560 amended registration reviews, 300 new use reviews, and 475 tolerance petition reviews. The emphasis on processing new chemicals and new uses will be continued in 1991. This will permit more rapid entry of newer, safer chemicals into the market.

The Agency will continue to give special emphasis to ground-water protection including registrant-performed monitoring, more extensive use of environmental fate test data, geographical restrictions and restricted use classifications. These measures will help prevent future environmental clean-up problems.

Regional liaison will be enhanced by working closely with the Regional pesticide experts and other Regional staff to improve Regional and state understanding of national regulatory activities, and by obtaining their input on policies and reviews affecting their mission. This liaison will improve oversight of section 18 experimental use permit reviews and section 24(c) special local need programs. Certain problems and Regional and state issues, including container disposal and ground-water contamination, will be addressed at the Regional level.

To prevent circumvention of section 3 registration requirements, stringent criteria for granting section 18 exemptions will continue to be applied. These criteria include consideration of progress towards permanent registration and clarification of "emergency" and "significant economic loss." Headquarters will continue to work closely with the Regions and states to monitor emergency exemptions and special local needs. Special emphasis will continue to be placed on the regulatory implications of genetically engineered microbial pesticides (GEMP's) and necessary interagency coordination.

The Agency will continue to ensure that tolerances reflect the most current regulatory status of each active ingredient, including revocation of tolerances on cancelled pesticides and tolerance reassessments in conjunction with Reregistration reviews. The automated Tolerance Assessment System (TAS) will be used to determine estimates of dietary exposure to pesticide residues. Tolerance fees will increase to reflect increases in the General Schedule pay-scale.

The Agency is also proposing legislation to reinstate collecting fees for pesticides Registration at the start of FY 1991.

1990 Program

In 1990, the Agency is allocating a total of $16,572,700 supported by 265.9 total workyears for this program, of which $13,640,600 is from the Salaries and Expenses appropriation and $2,932,100 is from the Abatement, Control and Compliance appropriation.

In 1990, registration reviews are continuing to emphasize new chemicals and new uses to facilitate the rapid availability of new, potentially safer chemicals which may replace older, more hazardous ones still in use. An ongoing productivity initiative, planned to reduce the cost and time needed to review old chemicals and amendments while ensuring quality reviews, has been expanded to address the expedited processing provisions of the 1988 FIFRA amendments. Registration reviews continue to emphasize protection of ground-water, workers, and endangered species.

In 1990, state participation in the Emergency Exemption, Experimental Use Permit, and Special Local Needs programs is continuing to be enhanced through EPA guidance and close Federal/state cooperation. Continued special attention is being given to biochemical/microbial agents. The Agency is revising the section 5 experimental use permit regulations to provide sufficient oversight of the early testing of genetically engineered and nonindigenous microbial pesticides.

The TAS is operational for estimating dietary exposure to pesticide residues and continues to be updated and refined. Inerts of toxicological concern are listed on pesticide labels and will undergo data call-ins. Crop group tolerances continue to be used where applicable to reduce data requirements and efficiently deal with minor uses.

1989 Accomplishments

In 1989, the Agency obligated a total of $16,179,700 supported by 264.1 total workyears for this program, of which $13,199,500 was from the Salaries and Expenses appropriation and $2,980,200 was from the Abatement, Control and Compliance appropriation.

Through a productivity initiative begun in 1988, the Old Chemicals and Amendments review process was evaluated in an effort to reduce the cost and time needed to accomplish these activities while ensuring adequate quality of required reviews. This productivity initiative was expanded to address the expedited processing provisions of the 1988 FIFRA Amendments.

Under the authority of the 1988 FIFRA amendments, a new system of user fees was put into place, establishing a separate reregistration fee system and suspending collection of the registration fee. The new system, which provides revenue for the FIFRA revolving fund, is composed of separate maintenance and reregistration fees.

The continually updated, computer-based TAS was used for determining estimates of dietary exposure to pesticide residues. Crop group tolerances continued to be used where applicable to reduce data requirements and effectively deal with minor uses.

PESTICIDES
Generic Chemical Review

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Generic Chemical Review					
Salaries & Expenses	$16,793.7	$18,646.9	$18,115.6	$19,891.6	$1,776.0
Abatement Control and Compliance	$52,384.6	$25,593.2	$24,778.5	$15,418.0	-$9,360.5
TOTAL	$69,178.3	$44,240.1	$42,894.1	$35,309.6	-$7,584.5
TOTAL:					
Salaries & Expenses	$16,793.7	$18,646.9	$18,115.6	$19,891.6	$1,776.0
Abatement Control and Compliance	$52,384.6	$25,593.2	$24,778.5	$15,418.0	-$9,360.5
Generic Chemical Review TOTAL	$69,178.3	$44,240.1	$42,894.1	$35,309.6	-$7,584.5
PERMANENT WORKYEARS					
Generic Chemical Review	327.5	439.3	425.7	504.3	78.6
TOTAL PERMANENT WORKYEARS	327.5	439.3	425.7	504.3	78.6
TOTAL WORKYEARS					
Generic Chemical Review	338.2	439.3	439.3	504.3	65.0
TOTAL WORKYEARS	338.2	439.3	439.3	504.3	65.0

PESTICIDES

Generic Chemical Review

Budget Request

The Agency requests a total of $35,309,600 supported by 504.3 total workyears for 1991, a decrease of $7,584,500 from 1990. Of the request, $19,891,600 will be for the Salaries and Expenses appropriation, and $15,418,000 will be for the Abatement, Control and Compliance appropriation. This represents increase of $1,776,000 in the Salaries and Expenses appropriation and a decrease of $9,360,500 in the Abatement, Control and Compliance appropriation. This represents an increase of 65.0 total workyears from the Reregistration and Expedited Processing Revolving Fund and no increase in Salaries and Expenses workyears.

GENERIC CHEMICAL REVIEW

1991 Program Request

The Agency requests a total of $35,309,600 supported by 504.3 total workyears for this program, of which $19,891,600 will be for the Salaries and Expenses appropriation, and $15,418,000 will be for the Abatement, Control and Compliance appropriation. Total workyears will include 314.3 from the Salaries and Expenses appropriation and 190.0 from the Reregistration and Expedited Processing Revolving Fund. This represents an increase of $1,776,000 in the Salaries and Expenses appropriation, a decrease of $9,360,500 in the Abatement, Control, and Compliance appropriation, no change in total Salaries and Expenses workyears, and an increase of 65.0 total workyears from the Reregistration and Expedited Processing Revolving Fund. The increase in Salaries and Expenses reflects increased personnel and support costs. The decrease in Abatement, Control, and Compliance reflects a reduction in the need to fund transportation, storage and disposal of remaining stocks of cancelled and suspended pesticides due to significant progress that will be achieved using funds appropriated in 1990.

For reregistration activities related to the 1988 FIFRA Amendments, resources will support 50 Reregistration Standards (RRS's), which represents an increase of 40 standards over the projected 1990 output. Additional workyears will be funded by the Reregistration and Expedited Processing Revolving Fund, created by the 1988 FIFRA Amendments.

Of the resources requested in 1991 for the Abatement, Control and Compliance appropriation, $4,000,000 will fund transportation, storage and disposal of cancelled and suspended pesticides. The Agency's responsibility to indemnify holders and bear the costs of disposal of cancelled and suspended pesticides will continue in 1991 for chemicals which were suspended and cancelled prior to the 1988 FIFRA Amendments. These funds will ensure the continued safe storage of national 2,4,5-T/Silvex stocks. Disposal of these stocks may commence in 1991 once a facility is permitted and available to the Agency for incineration of 2,4,5-T/Silvex.

As part of an Agency-wide program, the pesticide program will undertake five pollution prevention projects. The purposes of these projects will be to: (1) reduce surface and ground-water contamination and human health risks due to application of herbicides in major corn-producing states; (2) work with the Office of Research and Development (ORD) to develop a pesticides inerts strategy which formally addresses air pollution problems associated with volatile organic compounds; (3) work with ORD and Region 3 to develop and test the reliability of a pesticide hazard index to reduce the risk of pesticides in the Chesapeake Bay watershed; (4) work with ORD, the Regions, and states to develop a decision support system that will help states and local governments protect ground water from pesticides; and (5) support the ORD in developing information that would lead to a reduction in pesticide applications through the management of biological degradation processes.

Detailed follow-up studies of the National Pesticide Survey (NPS) data base will be initiated, following issuance of the December 1990 report. Other funds will support special ground-water projects.

1990 Program

In 1990, the Agency is allocating a total of $42,894,100 supported by 439.3 total workyears for this program, of which $18,115,600 is from the Salaries and Expenses appropriation and $24,778,500 is from the Abatement, Control and Compliance appropriation. Total workyears include 314.3 from the Salaries and Expenses appropriation and 125.0 from the Reregistration and Expedited Processing Revolving Fund.

The 1988 FIFRA Amendments require a large increase in the number of submissions from registrants. In 1990, registrants are responding to the four lists of active ingredients subject to reregistration (Phase I). In Phases II and III, EPA begins evaluation of preliminary data to identify data gaps. Much of this workload occurs in 1990. The substantial hiring and training program initiated as part of the implementation of the 1988 FIFRA Amendments is continuing in 1990. It is supported by maintenance and reregistration fees. Measures to upgrade and integrate current tracking systems are continuing, and additional ADP changes and improved capabilities are planned.

The Agency expects that 10 Reregistration Standards to be completed as work pertaining to the 1988 FIFRA Amendments continues. Funds from both base appropriations and the FIFRA revolving fund are utilized to accomplish these tasks. Thirteen Special Reviews are projected for 1990. Automated decision support systems, for assessing dietary exposure, are being enhanced to support this work.

Pesticide disposal program funds are being utilized for disposal of national dinoseb stocks and storage of 2,4,5-T/Silvex, pending the permitting of an incinerator for 2,4,5-T/Silvex disposal and the award of disposal contracts.

In 1990, the Agency is launching a major new program to build Regional and state capabilities to deal with problems of ground-water pollution, protect endangered species from pesticides, and promote the safety of pesticide applicators and agricultural workers. Resources for the Headquarters national program development and liaison function for this initiative are contained in

the Generic Chemical Review program. EPA continues its long-term collaborative effort with the states and Federal agencies to integrate ground-water management programs, including addressing ground-water concerns in registration and reregistration actions. Worker Protection Standards for Agricultural Pesticides (40 CFR 170) governing pesticide-treated field reentry intervals, protective clothing, and label warnings, are scheduled to be published as a final regulation in 1990.

In 1990, resources are being redirected to a new food safety initiative, which addresses broader food safety concerns. This initiative will strengthen the Agency's ability to make decisions on pesticides based on scientific risk assessments, and educate the public on the basis for these decisions.

The National Pesticide Survey (NPS) is scheduled for completion in 1990 and the final report is scheduled for December 1990. Results of the NPS will be used to refine the Agency's Agricultural Chemicals in Ground Water Strategy and to evaluate further regulatory and state-specific approaches to protect drinking water from pesticide pollution.

1989 Accomplishments

In 1989, the Agency obligated a total of $69,178,300 supported by 338.2 total workyears for this program, of which $16,983,600 was from the Salaries and Expenses appropriation and $52,194,700 was from the Abatement, Control and Compliance appropriation. Total workyears included 306.8 from the Salaries and Expenses Appropriation and 31.4 from the Reregistration and Expedited Processing Revolving Fund.

The FIFRA Amendments of 1988 accelerate the reregistration process for previously registered pesticides and require EPA to give accelerated consideration to applications for initial or amended registration of products which are similar to pesticides already registered with EPA. The 1988 FIFRA Amendments require a large increase in the number of registrant submissions. A major hiring and training program was initiated in 1989 in order to meet the increased workloads posed by the amendments.

In 1989, 14 Registration Standards and 9 Reregistration Standards were established, and 9 Special Review decisions were reached. In addition, FIFRA Phase I-IV activities were begun in accordance with the 1988 FIFRA Amendments.

Work continued in 1989 on implementation of the Agency's October 1988 response to the National Academy of Sciences' (NAS) food additive study. The new policy modifies the "zero-risk" standard for pesticides that increase in concentration during food processing, by implementing a "negligible risk" standard, treating older pesticides by the same risk standards as new pesticides.

Comments of state, private and public interest groups were incorporated into the Agency's proposed Endangered Species Protection Program (ESPP) and efforts toward development of Worker Protection Standards continued.

The major 1989 activity in the pesticide disposal program was the preparation for disposal of nation-wide dinoseb stocks. A Dinoseb demonstration burn was conducted in August and September of 1989. All remaining stocks of ethylene dibromide (EDB) were incinerated in 1989.

Laboratory audits were conducted by the Agency or cooperatively with other agencies to ensure the development of high-quality test data and environmental effects of pesticides. In addition, use of Integrated Pest Management alternatives was encouraged in order to reduce levels of human and environmental exposure, typical of conventional pesticide use practices.

PESTICIDES
Pesticides Program Implementation

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
PROGRAM						
Pesticides Program Implementation						
Salaries & Expenses		$987.0	$1,935.7	$1,994.6	$2,661.6	$667.0
	TOTAL	$987.0	$1,935.7	$1,994.6	$2,661.6	$667.0
Pesticides Program Implementation - Grants						
Abatement Control and Compliance		$3,978.1	$12,306.3	$12,149.0	$14,500.0	$2,351.0
	TOTAL	$3,978.1	$12,306.3	$12,149.0	$14,500.0	$2,351.0
TOTAL:						
Salaries & Expenses		$987.0	$1,935.7	$1,994.6	$2,661.6	$667.0
Abatement Control and Compliance		$3,978.1	$12,306.3	$12,149.0	$14,500.0	$2,351.0
Pesticides Program Implementation	TOTAL	$4,965.1	$14,242.0	$14,143.6	$17,161.6	$3,018.0
PERMANENT WORKYEARS						
Pesticides Program Implementation		20.0	44.4	40.6	54.2	13.6
TOTAL PERMANENT WORKYEARS		20.0	44.4	40.6	54.2	13.6
TOTAL WORKYEARS						
Pesticides Program Implementation		22.0	44.4	44.1	54.2	10.1
TOTAL WORKYEARS		22.0	44.4	44.1	54.2	10.1

PESTICIDES

Pesticides Program Implementation

Budget Request

The Agency requests a total of $17,161,600 supported by 54.2 total workyears for 1991, an increase of $3,018,000 and 10.1 workyears from 1990. Of the request, $2,661,600 will be for the Salaries and Expenses appropriation and $14,500,000 will be for the Abatement, Control, and Compliance appropriation, This represents an increase of $667,000 in the Salaries and Expenses appropriation and an increase of $2,351,000 in the Abatement, Control and Compliance appropriation from 1990.

PESTICIDES PROGRAM IMPLEMENTATION

1991 Program Request

The Agency requests a total of $2,661,600 supported by 54.2 total workyears for this program (formerly the Certification and Training (C&T) program), all of which will be for the Salaries and Expenses appropriation. This represents an increase of $667,000 for Salaries and Expenses and an increase of 10.1 total workyears. The increase in Salaries and Expenses reflects costs associated with the increase in workyears as well as increased personnel costs.

The 1991 request expands an initiative begun in 1990 to address increasing concerns about the pesticide threat to ground water, endangered species, and workers occupationally exposed to pesticides. Problems in these areas have necessitated a fundamental shift in the pesticide program from its traditional, primary focus on national licensing activities to a more balanced Headquarters/field effort. Further, local variations in state pesticide programs and in the severity of problems in these areas require a strong but flexible Regional and state presence. Emphasis is placed on using non-regulatory approaches and the Certification and Training program. The increase of 10.1 workyears in the Regional offices will provide guidance to states in the development of their programs, develop coordination mechanisms with state agencies, review state grant applications, provide oversight to state grants and, upon state request, provide additional technical assistance to state programs. In addition, in 1991, Regional offices will help implement the revised C&T regulations.

1990 Program

In 1990, the Agency is allocating a total of $1,994,600 supported by 44.1 total workyears for this program, all of which is from the Salaries and Expenses appropriation.

Headquarters staff is directing the development of training materials in the areas of ground water, endangered species, and worker safety. Updated national training materials are being developed in cooperation with the United States Department of Agriculture (USDA). A major effort to revise the C&T regulations is being completed. It requires states to improve their record-

keeping and examination requirements. Further, the revisions require applicators to renew their certifications periodically. Training requirements for initial certification are being strengthened.

In 1990, emphasis is also being placed on oversight of the process to remedy deficiencies in state pesticide management plans identified through Regional evaluations and negotiations. The program is also implementing rules governing the sale of restricted use pesticides to non-certified persons. Regional staff, in conjunction with USDA, are completing in-depth evaluations of State Cooperative Extension Services' (SCES) training programs for applicator certification and training, and are working with USDA and the SCES to strengthen existing programs. Regional staff are also continuing to provide technical expertise on specific issues relating to the use and application of pesticides.

Regional office staff are implementing the Regional-state capabilities initiative in the areas of protection of ground water, workers occupationally exposed to pesticides, and endangered species.

In 1990, the program is also continuing to implement the EPA/state FIFRA Issues Research and Evaluation Group (EPA/SFIREG) recommendations with emphasis on revising and implementing certification regulations. Initiatives to implement Federally administered state C&T programs are being completed.

1989 Accomplishments

In 1989, the Agency obligated a total of $987,000 supported by 22.0 total workyears for this program, all of which was from the Salaries and Expenses appropriation.

In 1989, the major focus was to implement the recommendations of the EPA/SFIREG C&T Task Force to upgrade C&T materials. EPA and USDA jointly reviewed all state private applicator training programs. One tribal plan was approved and five were under review. A certification workshop for tribal officials was held.

EPA Regional pesticide experts provided technical expertise on pesticide issues such as certification and training, application techniques, toxicity, pesticide disposal, restricted use pesticides, and other topical pesticide issues.

PESTICIDES PROGRAM IMPLEMENTATION GRANTS

1991 Program Request

The Agency requests a total of $14,500,000 for this program, all of which will be for the Abatement, Control, and Compliance appropriation. This represents an increase of $2,351,000 from 1990, which reflects an increased emphasis on addressing ground-water, endangered species and worker safety concerns.

The 1991 request augments an initiative begun in 1990 to address increasing concerns about the pesticide threat to ground water, endangered species, and workers occupationally exposed to pesticides. Problems in these areas have

necessitated a fundamental shift in the pesticide program from its traditional, primary focus on national licensing activities to a more balanced Headquarters/field effort. Further, local variations in state pesticide programs and in the severity of problems in these areas require a strong but flexible Regional and state presence. This initiative will strengthen state capabilities to address the problem of protecting ground water, workers occupationally exposed to pesticides, and species endangered from pesticides. Emphasis is placed on using non-regulatory approaches and the C&T program. For example, resources requested for state grants will be used to expand efforts to assess state vulnerabilities, develop state programs and grant applications, implement programs using outreach, training and education programs, conduct workshops and special projects, and develop and implement public and private sector initiatives. State efforts must be coordinated among concerned state agencies (e.g., agriculture, health, water, and environment). The 1991 increase will be used to implement the revised C&T regulations, and expand worker protection and endangered species programs.

The Agency will continue to promote the correct use of pesticides. To achieve this goal, EPA will continue cooperative agreements with state lead agencies to certify applicators to use restricted use pesticides. EPA will continue to provide grants to the states to support this activity. Certification grants will continue to help support 53 applicator certification programs in participating states and territories and Federally administered programs in Colorado and Nebraska. EPA will continue an interagency agreement with USDA to provide training to pesticide applicators by working through the SCES.

1990 Program

In 1990, the Agency is allocating a total of $12,149,000, all of which is from the Abatement, Control, and Compliance appropriation. These resources support the certification and training program, as well as the program initiated in 1990 to strengthen state capabilities to address problems in protection of ground water, workers occupationally exposed to pesticides, and endangered species.

Funding for certification agreements helps support 53 applicator certification programs in participating states and territories and in the Federally conducted programs in Colorado and Nebraska. EPA is continuing its interagency agreement with USDA to provide training to pesticide applicators by working through the SCES. A grant to the USDA/SCES helps support the applicator training programs.

Regional educational packages and special initiatives to meet national and Regional pesticide issues and critical information gaps are being developed. Resources are also being used to develop training programs for non-agricultural applicators to whom training expertise is not currently available.

1989 Accomplishments

In 1989, the Agency obligated a total of $3,978,100 for this program all of which was from the Abatement, Control and Compliance appropriation.

This funding was used to help support 53 delegated certification programs, 53 delegated training programs, and the Federally conducted programs in Colorado

and Nebraska. The states updated their programs to address newly restricted pesticides, changes in technology and new information on the use and effects of pesticides. The program supported C&T special initiatives to address Regional issues and non-agricultural training needs (including proper use of restricted use pesticides in lawn care and within permanent structures, buildings, and relating to ground water and disposal procedures). A steering committee was established to identify and make accessible appropriate private sector resources that are currently not being used in C&T.

Enforcement

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ENVIRONMENTAL PROTECTION AGENCY

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PESTICIDES
Pesticides Enforcement

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Pesticides Enforcement					
Salaries & Expenses	$5,050.1	$5,375.2	$5,551.8	$6,673.9	$1,122.1
Abatement Control and Compliance	$397.7	$103.0	$547.8	$1,800.6	$1,252.8
TOTAL	$5,447.8	$5,478.2	$6,099.6	$8,474.5	$2,374.9
Pesticides Enforcement Grants					
Abatement Control and Compliance	$8,928.0	$12,605.0	$12,444.0	$15,803.4	$3,359.4
TOTAL	$8,928.0	$12,605.0	$12,444.0	$15,803.4	$3,359.4
TOTAL:					
Salaries & Expenses	$5,050.1	$5,375.2	$5,551.8	$6,673.9	$1,122.1
Abatement Control and Compliance	$9,325.7	$12,708.0	$12,991.8	$17,604.0	$4,612.2
Pesticides Enforcement TOTAL	$14,375.8	$18,083.2	$18,543.6	$24,277.9	$5,734.3
PERMANENT WORKYEARS					
Pesticides Enforcement	103.9	132.3	127.1	157.3	30.2
TOTAL PERMANENT WORKYEARS	103.9	132.3	127.1	157.3	30.2
TOTAL WORKYEARS					
Pesticides Enforcement	112.5	132.3	132.2	157.3	25.1
TOTAL WORKYEARS	112.5	132.3	132.2	157.3	25.1

PESTICIDES

Pesticides Enforcement

Budget Request

The Agency requests a total of $24,277,900 supported by 157.3 total workyears for 1991, an increase of $5,734,300 and 25.1 total workyears from 1990. Of the request, $6,673,900 will be for the Salaries and Expenses appropriation and $17,604,000 will for the Abatement, Control, and Compliance appropriation. This represents an increase of $1,122,100 in the Salaries and Expenses appropriation, an increase of $4,612,200 in the Abatement, Control and Compliance appropriation, an increase of 12.1 total workyears in the Salaries and Expenses appropriation and an increase of 13.0 total workyears from the Reregistration and Expedited Processing Revolving Fund.

PESTICIDES ENFORCEMENT

1991 Program Request

The Agency requests a total of $8,474,500 supported by 157.3 total workyears for this program of which $6,673,900 will be for the Salaries and Expenses appropriation and $1,800,600 will be for the Abatement, Control and Compliance appropriation. Total workyears will include 129.3 from the Salaries and Expenses appropriation and 28.0 from the Reregistration and Expedited Processing Revolving Fund. This represents an increase of $1,122,100 for Salaries and Expenses, an increase of $1,252,800 for Abatement, Control, and Compliance, an increase of 12.1 in total Salaries and Expenses workyears, and an increase of 13.0 in total Reregistration and Expedited Processing Revolving Fund workyears. The increase in the Salaries and Expenses appropriation reflects increased personnel costs as well as the increase in total workyears. The increase in the Abatement, Control, and Compliance appropriation will allow upgrading of Regional ADP systems to better track pesticide exports/imports and will support activities to enforce the non-reregistration provisions of the 1988 Amendments to FIFRA.

For reregistration enforcement activities related to the 1988 FIFRA Amendments, the additional 13.0 total workyears will support increased laboratory inspections and data audits and will expand 1988 FIFRA Amendments enforcement activities in the Regions.

In 1991, the Pesticides Enforcement program will continue to concentrate on state delegation, under cooperative enforcement agreements, in the nationwide pesticide compliance monitoring program. The Agency will emphasize achieving compliance with rules governing pesticide use, and place less emphasis on product surveillance in the marketplace. Tracking and enforcement of pesticide registration requirements will be a major component of the pesticide enforcement program. The states will be responsible for enforcing notices of intent to suspend product registrations issued under this compliance program. The Federal role at the Regional level will involve overseeing and managing state cooperative agreement programs and supporting enforcement of new Agency initiatives in worker protection from pesticides contamination by overseeing the development of state enforcement response policies under Sections 26 and 27, and tracking and compliance followup for Section 3(c)(2)(B) cancellations.

An increase of 8.1 total workyears will allow Regional offices to expand the Federal compliance activities in support of the worker protection regulations begun in FY 1990. The increase will also allow for implementation of compliance programs for container disposal and ground-water and endangered species protection strategies. The Regions will develop specific strategies to address unique local conditions and problems, develop state inspector training materials, and conduct training workshops to train state inspectors in enforcement of the Agency's pesticides in ground water strategy, the worker protection rule, and requirements for endangered species protection. Regional personnel will also conduct inspections and develop cases in support of the new initiatives and will evaluate state grant activities associated with the new initiatives.

An increase of $250,000 in the Abatement, Control, and Compliance appropriation will allow for upgrading of Regional ADP systems with special emphasis on tracking pesticides exports and imports.

Headquarters will provide overall program guidance and management, assist in developing new and revised regulations, and develop compliance monitoring strategies and enforcement response policies for all such rules. Headquarters staff will also provide guidance and general oversight of the Federal/state cooperative enforcement agreement program, and technical and analytical support for Regional activities. Both Headquarters and the Regional offices are responsible for quality assurance and quality control of all enforcement data collected by EPA. Headquarters will also direct the OPTS laboratory data integrity program, which inspects private testing laboratories to determine compliance with Good Laboratory Practices regulations, audits in process and scientific accuracy of completed test studies.

Increases of 4.0 workyears and $1,002,800 in the Abatement, Control, and Compliance appropriation will support program response to the increased enforcement requirements of the 1988 Amendments to FIFRA in areas of voluntary suspension/cancellation of pesticides and associated disposal activities. These activities cannot be financed through the Revolving Fund.

1990 Program

In 1990, the Agency is allocating a total of $6,099,600 supported by 132.2 total workyears for this program, of which $5,551,800 is from the Salaries and Expenses appropriation and $547,800 is from the Abatement, Control and Compliance appropriation. Total workyears include 117.2 from the Salaries and Expenses appropriation and 15.0 from the Reregistration and Expedited Processing Revolving Fund.

In 1990, the Agency is continuing to emphasize state participation in pesticide compliance monitoring and enforcement activities through cooperative enforcement agreements. There are 55 cooperative enforcement agreements with states and territories and eleven additional agreements with Indian Tribes and tribal organizations. Federal compliance monitoring activities continue in states without cooperative agreements. Other Federal responsibilities include import and export surveillance, technical and compliance assistance to the states and the regulated community, and operation of a computer system maintaining pesticide producer establishment and production records and other related enforcement data. Tracking and enforcement of pesticide registration requirements

continue to be a vital component of the Federal compliance program. Regions are beginning in support of worker protection enforcement activities in the states.

1989 Accomplishments

In 1989, the Agency obligated a total of $5,447,800 supported by 112.5 total workyears for this program. Total dollars included $5,050,100 from the Salaries and Expenses appropriation and $397,700 from the Abatement, Control and Compliance appropriation. Total workyears included 111.0 from the Salaries and Expenses appropriation and 1.5 from the Reregistration and Expedited Processing Revolving Fund.

In 1989, the Federal compliance monitoring program accomplished the following: 106 inspections of pesticide producing establishments, 204 use and re-entry inspections, 160 import inspections at ports of entry, 285 marketplace inspections, and 47 laboratory inspections.

A total of 55 cooperative enforcement agreements were in place with states and territories, plus another eight agreements with Indian Tribes and tribal organizations in 1989. As part of the cooperative agreement program, the Agency provided training for state inspectors, chemists and case development staff.

PESTICIDES ENFORCEMENT GRANTS

1991 Program Request

The Agency requests a total of $15,803,400 for this program, all of which will be for the Abatement, Control and Compliance appropriation. This represents an increase of $3,359,400. The increase will allow states to increase enforcement activities in support of the new worker protection regulations and begin compliance programs in support of new ground-water and endangered species protection programs. Also, the increase will allow states to provide 9,500 inspections to determine compliance with the new disposal, storage, transportation, and recall regulations required by the 1988 Amendments to FIFRA, as well as new pesticide compliance initiatives aimed at regulating pesticide imports and exports.

The Agency will continue to expand the number of cooperative enforcement agreements with participating states and territories to a total of 57, and increase the number of agreements with Indian Nations to 14. The cooperative enforcement agreement program continues to be the primary means for ensuring public and environmental safety from hazardous pesticides by enforcing the requirements of FIFRA. The program is designed to permit participating states and territories to determine their program priorities and utilize the resources provided to act upon these priorities.

State activities will include use and re-entry investigations, pesticide producer establishment and marketplace inspections, applicator license and record inspections, and dealer record inspections.

1990 Program

In 1990, the Agency is allocating a total of $12,444,000 for this program, all of which is from the Abatement, Control and Compliance appropriation.

In 1990, the Agency is continuing 55 cooperative enforcement agreements with states and territories, and eleven additional agreements with Indian Tribes and tribal organizations. These agreements emphasize user compliance with label directions for proper use and application, as well as manufacturer adherence to product formulation requirements under FIFRA. Inspections also address applicator licenses and records, producer establishments, marketplaces, and pesticide dealers.

In this fiscal year, a program in support of the new worker protection regulations has begun. States are ensuring coordination with all agencies responsible for the safety of workers occupationally exposed to pesticides, notifying prospective constituents of the provisions of the final worker protection rule, and conducting worker protection-related inspections, incident investigations, and legal action. The inspections ensure that product labeling includes the new worker protection statements and focus on new use-related requirements under the revised regulations.

1989 Accomplishments

In 1989, the Agency obligated a total of $8,928,000 for this program, all of which was from the Abatement, Control and Compliance appropriation.

Under the terms of their cooperative enforcement agreements, 55 participating states and territories, plus eight Indian Nations, conducted 12,639 use, reentry and experimental use inspections, 1,488 inspections of pesticide-producing establishments, 7,130 applicator license and record inspections, 3,981 dealer record inspections, 5,662 marketplace inspections and 273 import inspections.

7. Radiation

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ENVIRONMENTAL PROTECTION AGENCY

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RADIATION

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
APPROPRIATION					
Salaries & Expenses	$11,862.7	$12,914.6	$12,464.2	$14,977.5	$2,513.3
Abatement Control and Compliance	$10,710.7	$20,623.3	$20,349.2	$21,612.7	$1,263.5
Research & Development	$2,170.7	$2,324.9	$2,258.1	$2,519.5	$261.4
TOTAL, Radiation	$24,744.1	$35,862.8	$35,071.5	$39,109.7	$4,038.2
PERMANENT WORKYEARS	241.7	281.2	275.2	301.8	26.6
TOTAL WORKYEARS	253.0	281.2	277.8	301.8	24.0
OUTLAYS	$22,383.1	$31,472.9	$31,330.5	$35,040.9	$3,710.4

AUTHORIZATION LEVELS

The "Indoor Radon Abatement Act of 1988" authorizes $45 million over 1989, 1990, and 1991. All other authorization except for Research and Development is by virtue of the Appropriation Act. The Environmental Research, Development and Demonstration Act expired September 30, 1981. Reauthorization is pending.

RADIATION

OVERVIEW AND STRATEGY

EPA's mandate to protect the public health and environment from adverse effects of radiation exposure is derived from several statutes: the Atomic Energy Act, the Clean Air Act, the Resource Conservation and Recovery Act, the Uranium Mill Tailings Radiation Control Act, the Indoor Radon Abatement Act (IRAA) of 1988, and the Superfund Amendments and Reauthorization Act (SARA). Other authorities are contained in the Nuclear Waste Policy Act; the Federal Water Pollution Control Act; the Marine Protection, Research, and Sanctuaries Act; the Safe Drinking Water Act; the Public Health Service Act; and the National Environmental Policy Act.

The statutes prescribe EPA's role in assessing the environment, evaluating technology, setting standards, issuing policy and guidance, and conducting research. In some cases, the statutes vest enforcement responsibilities in other agencies, notably the Nuclear Regulatory Commission (NRC). In these instances, EPA performs some oversight functions to ensure compliance with established standards and guidance.

EPA's radiation program has four major objectives: (1) reduce health effects and environmental impacts; (2) assess emerging radiation problems; (3) maintain a capability to respond to emergencies; and (4) carry out supporting research.

Reduce Adverse Health Effects and Environmental Impact from Radiation Exposure through a Program of Standards and Guides

Under the Clean Air Act, EPA assesses and regulates source categories that emit airborne radionuclides. The Agency promulgates and implements National Emission Standards for Hazardous Air Pollutants (NESHAPs). In 1991 the Agency will implement final NESHAPs rules issued in calendar year 1989, as well as begin to carry out new requirements included in anticipated changes to the Clean Air Act. EPA will provide implementation guidance to states and EPA Regional Offices, and will work with states to transfer NESHAPs implementation responsibility to them. The Agency will also develop model state guidance for the control of radionuclides, establish training programs for implementation at the Regional and state levels, maintain a national data base related to the implementation program, and provide technical assistance to inspection teams.

EPA evaluates and regulates various classes of radioactive wastes and disposal options through a program designed to ensure environmentally sound waste disposal practices that limit exposure to radiation. As part of the effort to address the problem of radioactive waste disposal, EPA will promulgate final low-level and high-level radioactive waste standards. The Agency will also begin to develop guidance for the clean-up of residual radioactivity.

Assess and Quantify Existing and Emerging Radiation Problems and their Potential Impact

The increasing use of radioactive materials has been accompanied by more widespread knowledge about radiation exposure and the potential for contamination of environmental pathways. As a consequence, requests for assistance in site assessments and radiochemical analyses of environmental samples have increased substantially, particularly from the Federal sector.

One of the most significant radiation problems identified in recent years is indoor radon. Radon, a naturally occurring radioactive gas, is estimated to cause about 20,000 lung cancer fatalities annually. In response to elevated indoor radon levels found across the country, the Congress enacted the Indoor Radon Abatement Act (IRAA) in 1988. The Act includes a mandate to set a long-term national goal of reducing indoor radon concentrations to ambient levels.

The radon program consists of four objectives: assessing the problem, carrying out mitigation and prevention research and applications, developing state and private sector capability, and developing and disseminating public information and education materials. The activities, which incorporate functions mandated under IRAA, the Superfund Amendments and Reauthorization Act (SARA), and other statutory authority, are part of an integrated program that relies on a voluntary partnership among the Federal, state, and private sectors.

In 1991 EPA will continue its Radon state grant program to help states develop and implement programs to assess and mitigate radon. The Agency will conduct data analysis for the National Survey of Radon in Residences and issue a final report. In addition, the Agency will complete the design of the National Survey of Radon in Schools and will initiate a survey. EPA will also provide assistance to states and Indian nations in the design and execution of state-wide radon surveys. The national Radon Contractor Proficiency (RCP) program will continue to evaluate the capability of mitigation firms and the national Radon Measurement Proficiency (RMP) program will assess the capability of measurement firms. EPA will continue to provide radon mitigation and prevention training through regional training centers; the House Evaluation Programs (HEPs), which provide hands-on radon measurement, mitigation, and prevention training to state personnel, private contractors, and home builders; and the Radon Diagnostic and Mitigation Training Course. The Agency will promulgate user fee regulations and begin collecting fees for its radon training and proficiency programs.

Maintain a Capability to Respond to Emergencies and to Aid Development and Testing of State, Local, and Federal Plans for Emergency Response

The Agency maintains the Environmental Radiation Ambient Monitoring System (ERAMS) to provide a mechanism for tracking and measuring large atmospheric releases of radioactive materials across the country. The system also provides continuous information on radiation levels in environmental pathways. The Agency maintains two emergency response teams in a state of readiness so that they can be flown to sites where significant radiation releases have occurred or appear imminent. In 1991 EPA will extend the number of staff trained to respond to radiation emergencies and evaluate the mobile radiation laboratories for equipment refitting or replacement. The Agency will also participate in full field exercises scheduled by the Federal Emergency Management Agency (FEMA) and continue to monitor rocket launches in which radioactive materials are involved.

As part of its nuclear accident response efforts, EPA will issue a draft interim protective action guide (PAG) for ingestion (food and water) pathways, initiate development of a training program for implementing the ingestion PAG, and complete training programs for early phase (evaluation and sheltering) and relocation PAGs.

Conduct Supporting Research

The EPA Office of Research and Development (ORD) performs two key functions in support of the Agency's radiation goals. First, ORD provides data needed to support the Agency's Radon Action Program. In 1991 ORD will continue to demonstrate radon mitigation techniques in a variety of residential structures, in coordination with the Agency's HEP, and will use the results to publish updated handbooks and technical manuals that detail mitigation techniques for homeowners and builders. ORD will also continue its mitigation demonstration program to address schools with elevated levels of radon.

Second, to assist laboratories that measure radionuclide emissions, ORD provides monitoring and quality assurance support, including inter-laboratory comparison studies. Under an interagency agreement with the Department of Energy, ORD also provides support in the form of off-site monitoring around nuclear test sites. This support includes long-term hydrological monitoring, a human surveillance investigation program, and maintenance of a radiation data base.

Consulting Services

The Office of Air and Radiation will fund a limited amount of consulting services in 1991. These will be limited to obtaining specialized expertise for radiochemical analyses, nuclear emergency response training, and the development of computer models.

RADIATION

PROGRAM ACTIVITIES	ACTUAL 1989	CURRENT ESTIMATE 1990	ESTIMATE 1991	INCREASE (+) DECREASE (-) 1991 VS 1990
Cumulative Outputs				
Regulations				
Proposals	9	3	1	-2
Negative Determinations .	3	3	--	-3
Promulgations	--	10	3	-7

Key for Cumulative Outputs:

1989: Radionuclide NESHAPs proposed for 9 source categories
Negative determination proposed for 3 source categories

1990: Radionuclide NESHAPs promulgated for 9 source categories
Negative determinations final for 3 source categories
1 final Uranium Mill Tailings Radiation Control Act standard promulgated
1 low-level waste standard proposed
1 high level waste standard proposed
Proposed amendment of Prevention of Significant Deterioration (PSD) standards to include radionuclides.

1991: 1 low level waste standard promulgated
1 high level waste standard promulgated
Promulgate amendment of PSD standards
Radionuclide NESHAPs proposed for 1 source category

Research and Development

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Radiation Research

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Monitoring Systems & Quality Assurance - Radiation					
Salaries & Expenses	$163.8	$287.8	$284.0	$292.3	$8.3
TOTAL	$163.8	$287.8	$284.0	$292.3	$8.3
Environmental Engineering and Technology - Radiation					
Salaries & Expenses	$1,160.5	$1,365.0	$1,134.1	$1,298.9	$164.8
Research & Development	$2,170.7	$2,324.9	$2,258.1	$2,519.5	$261.4
TOTAL	$3,331.2	$3,689.9	$3,392.2	$3,818.4	$426.2
TOTAL:					
Salaries & Expenses	$1,324.3	$1,652.8	$1,418.1	$1,591.2	$173.1
Research & Development	$2,170.7	$2,324.9	$2,258.1	$2,519.5	$261.4
Radiation Research TOTAL	$3,495.0	$3,977.7	$3,676.2	$4,110.7	$434.5
PERMANENT WORKYEARS					
Monitoring Systems & Quality Assurance - Radiation	3.5	4.7	4.7	4.7	0.0
Environmental Engineering and Technology - Radiation	18.6	17.9	17.7	17.7	0.0
TOTAL PERMANENT WORKYEARS	22.1	22.6	22.4	22.4	0.0
TOTAL WORKYEARS					
Monitoring Systems & Quality Assurance - Radiation	3.7	4.7	4.7	4.7	0.0
Environmental Engineering and Technology - Radiation	18.7	17.9	17.7	17.7	0.0
TOTAL WORKYEARS	22.4	22.6	22.4	22.4	0.0

RADIATION

Radiation Research

Principal Outputs by Objective

Objective 1: Provide Monitoring and Quality Assurance Support to Federal, State, and Local Laboratories

1991:
- o Annual report for Calendar Year 1991 on off-site surveillance around the Nevada Test Site (Monitoring).

1990:
- o Annual report for Calendar Year 1990 on off-site surveillance around the Nevada Test Site (Monitoring).
- o Annual report on laboratory radionuclide intercomparison studies (Monitoring).

1989:
- o Annual report for Calendar Year 1989 on off-site surveillance around the Nevada Test Site (Monitoring).

Objective 2: Provide Scientific Data to Support the Radon Action Program

1991:
- o Update on "Application of Radon Reduction Methods" (Engineering).
- o Study of radon and radon progeny air cleaners, novel mitigation concepts, and approaches for radon-resistant new school construction (Engineering).
- o Guidance Manual on Radon Resistant New Construction in Schools (Engineering).

1990:
- o Second annual international symposium on Radon and Radon Reduction Technology (Engineering).
- o Updated guidance to mitigation professionals, do-it-yourself homeowners, and State officials on radon mitigation techniques for existing homes (Engineering).
- o Report on initial school mitigation studies (Engineering).

1989:
- o Updated guidance manual "Radon Resistant Residential New Construction" (Engineering).
- o First Edition of the Technical Guidance Document on Radon Reduction in Schools (Engineering).

RADIATION

Radiation Research

Budget Request

The Agency requests a total of $4,110,700 supported by 22.4 total workyears for 1991, an increase of $434,500 from 1990 and no change in total workyears. Of the request, $1,591,200 will be for the Salaries and Expenses appropriation and $2,519,500 will be for the Research and Development appropriation, an increase of $173,100 and $261,400 respectively.

Program Objectives

This research program provides the Office of Radiation Programs (ORP) and other EPA, Federal, Regional, State and local officials with the scientific data, methods, assessments and mitigative techniques necessary to determine and control public exposure to radon and other radioactive materials in the environment. The following objectives support these goals:

Objective 1. Provide Monitoring and Quality Assurance Support to Federal, State, and Local Laboratories. This program provides comprehensive radiological monitoring and surveillance services to meet specific Department of Energy (DOE) requirements for its nuclear testing programs, especially at the Nevada Test Site. This work is conducted under a reimbursable arrangement with DOE. EPA conducts a radiochemical analytical quality assurance program which supports Federal, State, and local laboratories making radioactivity measurements.

Objective 2. Provide Scientific Data to Support the Radon Action Plan. Under this program, the Office of Research and Development (ORD) conducts research on, demonstrates and evaluates techniques to prevent and mitigate exposure to radon gas in new and existing homes, and in school buildings.

MONITORING SYSTEMS AND QUALITY ASSURANCE

1991 Program Request

The Agency requests a total of $292,300 supported by 4.7 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. This represents a minor increase in support for increased personnel and support costs, and no change in total workyears.

Provide Monitoring and Quality Assurance Support to Federal, State, and Local Laboratories. This research program will provide the data needed by policy-makers to make decisions regarding the control of public exposure to radioactive materials. Monitoring support for DOE at the Nevada Test Site and other test locations will be provided. An annual report for Calendar Year 1991 will be completed on the off-site surveillance around the Nevada Test Site. This support consists of a radiation safety monitoring program; a long-term hydrological monitoring program; a human radiation monitoring program; and maintenance of the radiation data base. Technical expertise and guidance will be provided to Regional, State, and contractor laboratories for radiochemical analyses of

environmental samples. Inter-laboratory comparison studies will be conducted to provide data on the precision and accuracy of radioactivity measurements in milk, drinking water, and air.

1990 Program

In 1990, the Agency is allocating a total of $284,000 supported by 4.7 total workyears for this program, all of which is from the Salaries and Expenses appropriation.

Monitoring support, including routine monitoring in off-site areas and support during nuclear tests is being provided to the Department of Energy at the Nevada Test Site and other installations. This will include reports on the laboratory radionuclide intercomparision studies, and the anuual report for surveillance around the Nevada Test Site for Calendar Year 1990. Support will also be provided to the site characterization studies of Yucca Mountain under consideration as a potential site for the disposal of high-level radioactive waste. Activities there will include both baseline studies and monitoring during facility construction. In addition, the Agency is conducting a quality assurance program for Regional, State, and contractor laboratories involved in the radiochemical analyses of radionuclides in environmental samples.

1989 Accomplishments

In 1989, the Agency obligated a total of $163,800 supported by 3.7 total workyears for this program, all of which was from the Salaries and Expenses appropriation.

The research program office published the annual report on the off-site surveillance program for Calendar Year 1989.

ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

1991 Program Request

The Agency requests a total of $3,818,400 supported by 17.7 total workyears for this program, of which $1,298,900 will be for the Salaries and Expenses appropriation and $2,519,500 will be for the Research and Development appropriation. This represents increases of $164,800 and $261,400 respectively, and no change in total workyears. The increase in funding will be used for increased personnel and support costs, and school mitigation research, respectively.

Provide Scientific Data to Support the Radon Action Plan. Exposure to indoor radon gas poses a significant risk to public health. To address the risks associated with radon and to respond to growing public concern, the "Radon Gas and Indoor Air Quality Research Act of 1986" (SARA, Title IV) and the "Indoor Radon Abatement Act of 1988" were enacted. These Acts authorize EPA to conduct a variety of applied research on indoor radon including demonstrations of techniques to reduce exposures. The primary objective of the radon mitigation program is to develop and demonstrate technology that achieves an indoor air quality that is as free of radon as the ambient air outside. The 1991 radon research program will carry out this responsibility three ways: (1) demonstrating

and evaluating mitigation techniques in existing homes; (2) evaluating preventive measures for homes under construction; and (3) evaluating mitigation techniques for school buildings. The School Mitigation Research program will emphasize demonstrations of the effectiveness of sub-slab suction systems in a variety of geological and climatic conditions around the country. Also this program will assess whether radon mitigation techniques presently used in houses are effective in schools. The school mitigation program will provide the results from the research to State agencies and local school districts. The research program will update the "Application of Radon Reduction Methods." The research office will also do a study on radon and radon progeny air cleaners, novel mitigation concepts, and approaches for radon-resistant new school construction. The research office will produce a guidance manual on radon resistant new construction in schools.

1990 Program

In 1990, the Agency is allocating a total of $3,392,200 supported by 17.7 total workyears for this program, of which $1,134,100 is from the Salaries and Expenses appropriation and $2,258,100 is from the Research and Development appropriation.

Radiation mitigation research will emphasize the development and demonstration of radon mitigation technologies which will reduce indoor radon levels to 4 pCi/L in both new and existing homes and in schools. This research will develop techniques appropriate for a sample of home construction types, geological characteristics, geographic variations and initial radon levels. The School Mitigation Research program will develop and demonstrate radon mitigation techniques for schools and will assist the Office of Air and Radiation (OAR) in providing technical assistance to Regions, States, and local school authorities. This will include a report on the initial school mitigation studies. There will be an updated guidance to mitigation professionals, do-it-yourself homeowners, and State officials on radon mitigation techniques for existing homes. Specifically, the Agency will examine and issue a study on the structural, architectural, and ventilation differences between homes and schools to determine if the unique characteristics of school buildings alter the effectiveness of previously examined mitigation techniques. The second annual international symposium on radon and radon reduction technology will held in 1990.

1989 Accomplishments

In 1989, the Agency obligated a total of $3,331,200 supported by 18.7 total workyears for this program, of which $1,160,500 was from the Salaries and Expenses appropriation and $2,170,700 was from the Research and Development appropriation.

Demonstrations of radon mitigation techniques were conducted in new and existing homes, and in schools. Technical guidance documents were produced for both of these dwellings. The brochure "Radon Reduction Methods: A Homeowners Guide" continued to be reprinted and widely circulated throughout the nation. The results of research in new homes was used to update the manual entitled "Radon Resistant Residential New Construction." In addition, Agency staff provided technical information to community leaders and participating homeowners at demonstration sites. The first edition of the "Technical Guidance Document on Radon Reduction in Schools" was published.

Abatement and Control

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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RADIATION

Radiation Criteria, Standards & Guidelines

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Radiation Criteria, Standards & Guidelines					
Salaries & Expenses	$3,364.2	$3,469.6	$3,422.9	$4,034.8	$611.9
Abatement Control and Compliance	$1,939.1	$1,766.8	$1,744.3	$2,194.4	$450.1
TOTAL	$5,303.3	$5,236.4	$5,167.2	$6,229.2	$1,062.0
TOTAL:					
Salaries & Expenses	$3,364.2	$3,469.6	$3,422.9	$4,034.8	$611.9
Abatement Control and Compliance	$1,939.1	$1,766.8	$1,744.3	$2,194.4	$450.1
Radiation Criteria, Standards & Guidelines TOTAL	$5,303.3	$5,236.4	$5,167.2	$6,229.2	$1,062.0
PERMANENT WORKYEARS					
Radiation Criteria, Standards & Guidelines	56.7	57.6	57.6	61.6	4.0
TOTAL PERMANENT WORKYEARS	56.7	57.6	57.6	61.6	4.0
TOTAL WORKYEARS					
Radiation Criteria, Standards & Guidelines	58.4	57.6	57.6	61.6	4.0
TOTAL WORKYEARS	58.4	57.6	57.6	61.6	4.0

RADIATION

Radiation Criteria, Standards, and Guidelines

Budget Request

The Agency requests a total of $6,229,200 supported by 61.6 total workyears for 1991. Of the request, $4,034,800 will be for the Salaries and Expenses appropriation and $2,194,400 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $611,900 in the Salaries and Expenses appropriation, an increase of $450,100 in the Abatement, Control and Compliance appropriation, and an increase of 4.0 workyears from 1990.

RADIATION CRITERIA, STANDARDS, AND GUIDELINES

1991 Program Request

The Agency requests a total of $6,229,200 supported by 61.6 total workyears for this program, of which $4,034,800 will be for the Salaries and Expenses appropriation and $2,194,400 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $611,900 in the Salaries and Expenses appropriation, an increase of $450,100 in the Abatement, Control and Compliance appropriation, and an increase of 4.0 workyears from 1990. EPA will use the increases to develop guidance for state permit programs under the final National Emission Standards for Hazardous Air Pollutants (NESHAPs) covering airborne radionuclides.

In 1991 EPA will continue to concentrate on three major program areas: addressing airborne radionuclides, establishing standards for radioactive waste management, and developing Federal guidance. The airborne radionuclides effort will focus on implementing the final NESHAPs rules issued in calendar year 1989. The Agency will continue to promote the transfer of NESHAPs implementation responsibilities to the states. This effort will include the development of guidance and criteria for state permit programs for the radionuclide NESHAPs. The Agency will also develop model state guidance for the control of airborne radionuclides, establish training programs for implementing these standards at the Regional and state levels, maintain a national data base related to the implementation program, and provide technical assistance to enforcement efforts.

EPA will promulgate final standards for the disposal of low-level and high-level radioactive wastes. The Agency will also begin to develop guidance on the clean-up of residual radioactivity. Over 20,000 sites (including Department of Energy facilities and over 100 nuclear power reactors) exist where radioactive materials are used. Many of these will be candidates for decommissioning over the next several decades. Without controls, lifetime health risks could be as high as 1 in 100. Billions of dollars potentially could be wasted by inadequate clean-up efforts.

As part of its nuclear accident response efforts, EPA will issue draft interim protective action guides (PAGs) for ingestion (food and water) pathways, initiate development of a draft interim PAG for accident contamination recovery, initiate development of a training program for implementing these PAGs, and

complete training programs for the early phase (evaluation and sheltering) and relocation PAGs.

1990 Program

In 1990 the Agency is allocating a total of $5,167,200 supported by 57.6 total workyears for this program, of which $3,422,900 is from the Salaries and Expenses appropriation and $1,744,300 is from the Abatement, Control and Compliance appropriation.

In 1990 EPA is concentrating on three major program areas: addressing airborne radionuclides, establishing standards for radioactive waste management, and developing Federal guidance. The Agency is focusing the 1990 airborne radionuclides effort on implementing the final NESHAPs rules issued in calendar year 1989. The Agency is initiating a program to promote the transfer of NESHAPs implementation responsibilities to the states and is providing guidance to those states seeking delegation of authority. EPA is also conducting pilot Regional and state training programs and providing guidance to the Regions on implementing the regulations. In addition, the Agency is developing a national data base on radionuclide emissions for the implementation program. Finally, the Agency is reviewing requests for construction, waivers, or alternative standards.

The courts have stayed the portion of the NESHAPs rules that governs air emissions of radionuclides from facilities regulated by the Nuclear Regulatory Commission (NRC), pending reconsideration of this portion of the rule. EPA will determine the result of this reconsideration in 1990.

As part of the effort to address the problem of radioactive waste disposal, EPA is continuing its efforts to publish a notice of proposed rulemaking (NPRM) for the land disposal of low-level radioactive waste, including naturally occurring and accelerator produced materials. In order to provide required implementation assistance to the Regions and states, the Agency is developing site evaluation guidance and a site evaluation model as well as other user-friendly computer models. In addition, following the completion of both the background information document and the economic assessment, EPA will conduct public hearings and receive and consider comments for the low-level waste final rule.

EPA is also developing new high-level waste standards as required by a court remand. The Agency will complete a background information document and an economic assessment, issue a NPRM, and hold public hearings in 1990. In addition, the Agency will augment existing standards for inactive mill tailings sites under the Uranium Mill Tailings Radiation Control Act with the repromulgation of standards for ground water protection at these sites.

The Agency is maintaining its radiofrequency measurement capabilities and conducting limited field studies for electromagnetic fields. The Agency is developing a public information document and is continuing to provide technical advice, assistance, and oversight.

As part of its nuclear accident response efforts, EPA will issue in 1990 revised draft interim PAGs for early phase and relocation and is initiating development of draft interim PAGs for ingestion pathways. The Agency is

conducting a training program to help ensure the uniform application of PAGs nationwide in emergency situations.

1989 Accomplishments

In 1989 the Agency obligated $5,303,300 and 58.4 total workyears for this program, of which $3,364,200 was from the Salaries and Expenses appropriation and $1,939,100 was from the Abatement, Control and Compliance appropriation.

In 1989 EPA worked to revise the radionuclide NESHAPs in accordance with the court remand of established standards. The Agency published a notice of proposed rulemaking, conducted public hearings, and received and considered comments. The Agency made modifications, as necessary, to respond to the court decision that limits the use of cost factors in establishing required levels. EPA reviewed all standards previously promulgated for compliance with the court order, and reexamined source categories that were determined not to require regulation to determine the propriety of those decisions.

EPA continued efforts to publish the NPRM for land disposal of low-level radioactive waste and to repropose the high-level waste standard remanded by the court. In support of these efforts, EPA continued development of background information documents and economic assessments for both standards. The Agency phased down the development of residual radioactivity guidance after completing a risk assessment and a sensitivity analysis of the on-site pathway code. In addition, the Agency initiated an inventory of contaminated sites.

EPA completed a study of electromagnetic radiation emitted from the Voice of America radio tower and issued a report of the findings. The Agency also developed PAGs for early phase and for relocation in the event of a nuclear incident. The Agency incorporated the PAGs for relocation into the Manual of Protective Actions, used in Federal, state, and local emergency preparedness plans in the event of a domestic or foreign radiation incident. The Agency initiated work on revised draft interim PAGs for early phase and relocation.

RADIATION
Radiation Program Implementation

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
PROGRAM						
Radiation Program Implementation						
Salaries & Expenses		$445.1	$364.2	$363.2	$827.9	$464.7
	TOTAL	$445.1	$364.2	$363.2	$827.9	$464.7
TOTAL:						
Salaries & Expenses		$445.1	$364.2	$363.2	$827.9	$464.7
Radiation Program Implementation	TOTAL	$445.1	$364.2	$363.2	$827.9	$464.7
PERMANENT WORKYEARS						
Radiation Program Implementation		7.2	7.0	5.5	17.0	11.5
TOTAL PERMANENT WORKYEARS		7.2	7.0	5.5	17.0	11.5
TOTAL WORKYEARS						
Radiation Program Implementation		9.0	7.0	7.0	17.0	10.0
TOTAL WORKYEARS		9.0	7.0	7.0	17.0	10.0

RADIATION

Radiation Program Implementation

Budget Request

The Agency requests a total of $827,900 supported by 17.0 total workyears for 1991, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $464,700 in the Salaries and Expenses appropriation and an increase of 10.0 total workyears from 1990.

RADIATION PROGRAM IMPLEMENTATION

1991 Program Request

The Agency requests a total of $827,900 supported by 17.0 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $464,700 in the Salaries and Expenses appropriation and an increase of 10.0 total workyears from 1990. The Agency will use the increase to implement, at the Regional level, the final National Emission Standards for Hazardous Air Pollutants (NESHAPs) covering airborne radionuclides.

In 1991 the Regions will participate fully in all aspects of the radionuclide NESHAPs implementation program. Currently, many state radiation programs are not adequate to assume delegated authority for implementing the radionuclide NESHAPs. Consequently, the Agency must bear primary responsibility for implementing the program. Much of this task will fall on the Regional offices. They will perform many of the initial permitting functions while at the same time work to strengthen state radiation programs to accept delegated authority for implementing the radionuclide NESHAPs. The Regions will also review applications from regulated facilities for construction permits, modifications to facilities, and waivers and exemptions. Regional staff will also provide technical assistance for radionuclide NESHAPs enforcement activities.

The testing and evaluation of state emergency response plans will continue to be an important element of Regional operations, along with the review of updated plans. EPA will continue to assist states in the development of radiological emergency response plans and will formally review these plans along with other Federal agencies. Also, the Regions will remain involved with state agencies and the public in presenting and interpreting Agency information and guidance regarding radiation problems in their area.

The Regions will continue to participate in the identification and assessment of hazardous waste sites that are contaminated with radioactivity, and will serve as coordination points for remedial action programs for such sites in their Regions. This effort supports both the EPA Headquarters hazardous waste programs and the requests from the states. The Regions will continue to be the primary reviewers of environmental impact statements for radiation facilities, such as commercial nuclear power plants, uranium mines and mills, and radioactive waste

disposal facilities. They will also respond to special problems involving actual or potential radiation releases or exposures.

1990 Program

In 1990 the Agency is allocating a total of $363,200 supported by 7.0 total workyears for this program, all of which is from the Salaries and Expenses appropriation.

In 1990 the Regions are participating in all aspects of the implementation program for emission sources within their geographic boundaries covered by NESHAPs for airborne radionuclides. Implementation includes reviewing requests to construct or modify facilities subject to radionuclide NESHAPs. The Regions are also providing coordination necessary where the national program is directly involved in implementation of the radionuclide NESHAPs in areas such as waivers and alternate requirements.

In addition, the Regional radiation program is continuing to focus on emergency preparedness and technical assistance to states, including participating in Regional Assistance Committees, testing and evaluating emergency response plans, and reviewing updated state and local emergency response plans. Regional programs also continue to be involved in the characterization of hazardous waste sites subject to possible remedial action. This includes staff participation as on-site radiation consultants in addressing problems at sites that are on the Superfund National Priority List. The Regions are continuing as the primary reviewer of environmental impact statements for radiation facilities, such as uranium mills and mines, and radioactive waste disposal facilities.

1989 Accomplishments

In 1989 the Agency obligated a total of $445,100 supported by 9.0 total workyears for this program, all of which was from the Salaries and Expenses appropriation.

In 1989 emergency preparedness and technical assistance to the states and other EPA Regional programs remained a central focus of the Regional radiation program. The Regions also reviewed requests to construct or modify facilities and requests for exemptions for facilities covered by airborne radionuclide NESHAPs. They continued to review environmental impact statements for radiation facilities, such as uranium mills and mines, and radioactive waste disposal sites. They also continued to be involved in the characterization of hazardous waste sites, and provided technical assistance and advice to the Superfund program on actual or possible remedial actions.

RADIATION
Radiation Environmental Impact Assessment

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
			(DOLLARS IN THOUSANDS)		
PROGRAM					
Radiation Environmental Impact Assessment					
Salaries & Expenses	$3,271.2	$3,151.2	$3,092.8	$3,340.5	$247.7
Abatement Control and Compliance	$29.0	$29.9	$29.6	$30.3	$.7
TOTAL	$3,300.2	$3,181.1	$3,122.4	$3,370.8	$248.4
TOTAL:					
Salaries & Expenses	$3,271.2	$3,151.2	$3,092.8	$3,340.5	$247.7
Abatement Control and Compliance	$29.0	$29.9	$29.6	$30.3	$.7
Radiation Environmental Impact Assessment TOTAL	$3,300.2	$3,181.1	$3,122.4	$3,370.8	$248.4
PERMANENT WORKYEARS					
Radiation Environmental Impact Assessment	44.4	51.0	51.0	51.0	0.0
TOTAL PERMANENT WORKYEARS	44.4	51.0	51.0	51.0	0.0
TOTAL WORKYEARS					
Radiation Environmental Impact Assessment	48.6	51.0	51.0	51.0	0.0
TOTAL WORKYEARS	48.6	51.0	51.0	51.0	0.0

RADIATION

Radiation Environmental Impact Assessment

Budget Request

The Agency requests a total of $3,370,800 supported by 51.0 total workyears for 1991. Of the request, $3,340,500 will be for the Salaries and Expenses appropriation and $30,300 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $247,700 for the Salaries and Expenses appropriation, an increase of $700 in the Abatement, Control and Compliance appropriation, and no change total workyears.

RADIATION ENVIRONMENTAL IMPACT ASSESSMENT

1991 Program Request

The Agency requests a total of $3,370,800 supported by 51.0 total workyears of which $3,340,500 will be for the Salaries and Expenses appropriation and $30,300 will be for Abatement, Control and Compliance appropriation. This represents an increase of $247,700 in the Salaries and Expenses appropriation, an increase of $700 in the Abatement, Control and Compliance appropriation, and no change in total workyears. The increase reflects increased personnel and support costs.

In 1991 the Agency will continue to support development, implementation, and enforcement of standards under the Clean Air Act, the Atomic Energy Act, and other statutory authorities. This will include laboratory support to be provided to the Regions and states for air sampling in conjunction with the implementation effort for airborne radionuclide National Emission Standards for Hazardous Air Pollutants (NESHAPs).

The Agency will continue work to enhance its ability to respond to nuclear accidents. This effort will once again include training additional radiation staff beyond those who routinely participate in emergency response tests and exercises. In 1991 EPA will also evaluate the mobile radiation laboratories for equipment refitting or replacement. EPA will continue to maintain its base emergency response capabilities at two field locations and Headquarters, and will participate in field exercises scheduled by the Federal Emergency Management Agency (FEMA). The Agency will continue to monitor rocket launches in which radioactive materials are involved. The 268 stations of the Environmental Radiation Ambient Monitoring System (ERAMS), which collect and analyze samples of air, precipitation, and milk to help determine ambient radiation levels, will continue in full operation.

The Agency will continue technical analyses and associated quality assurance programs in support of regulatory development and implementation efforts. EPA will continue to provide limited support to states, Indian nations, other Federal agencies, and other parts of EPA in the form of radiochemical analyses, technical assistance, and participation in targeted conferences to address unique radiation problems.

1990 Program

In 1990 the Agency is allocating a total of $3,122,400 supported by 51.0 total workyears for this program, of which $3,092,800 is from the Salaries and Expenses appropriation and $29,600 is from the Abatement, Control and Compliance appropriation.

In 1990 EPA is continuing to support the development, implementation, and enforcement of standards and guidance. This includes support for implementing NESHAPs for airborne radionuclides and collecting and analyzing air samples from facilities to verify compliance with existing standards.

EPA continues to maintain emergency response capabilities at two field locations and Headquarters and to participate in field exercises scheduled by FEMA. In calendar year 1989 EPA participated in the response to three potentially uncontrolled releases of radiological contamination -- discharges at the Rocky Flats nuclear weapons plant near Denver, Colorado; abandoned stores of radium at the Radium Chemical warehouse in New York City, and the launch of the Atlantic Space Shuttle carrying the nuclear powered satellite, Galileo. In 1990 EPA is extending training for nuclear accident responses to the radiation staff beyond the core group who normally participate in tests and exercises of the existing Federal emergency response plans. Other activities include coordinating EPA Regional review and testing of state emergency response plans; participating in contingency planning for the space shuttle launch carrying the nuclear powered satellite, Ulysses, in the Autumn of 1990; assisting other EPA offices and state radiological programs; and operating ERAMS.

EPA also provides limited support to states, other Federal agencies, and other parts of EPA in the form of radiochemical analyses, technical assistance, and participation in the Conference of Radiation Control Program Directors. The Agency is making available reports of radiation levels in naval harbors surveyed at the request of the Navy.

1989 Accomplishments

In 1989 the Agency obligated a total of $3,300,200 supported by 48.6 total workyears for this program of which $3,271,200 was from the Salaries and Expenses appropriation and $29,000 was from the Abatement, Control and Compliance appropriation.

In 1989 EPA continued laboratory and technical support for regulation and guidance development. The Agency continued to develop risk assessment methodology in support of regulations for residual radioactivity at decommissioned nuclear facilities. The Agency also conducted environmental assessments in harbors servicing nuclear-powered vessels, in accordance with an Interagency Agreement with the Navy. A similar arrangement with the Federal Communications Commission provides for measurement of radiofrequency levels in specific locations of interest or concern.

Program activities also included the maintenance of an emergency response capability, coordination of EPA Regional review and testing of state emergency response plans, participation in the Defense Nuclear Agency-sponsored Distinct Action exercise, assistance to other EPA offices and to state radiological programs, and operation of ERAMS.

RADIATION
Radon Action Program

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Radon Action Program					
Salaries & Expenses	$2,662.1	$3,096.5	$2,756.7	$3,347.1	$590.4
Abatement Control and Compliance	$8,742.6	$17,842.0	$9,603.2	$10,388.0	$784.8
TOTAL	$11,404.7	$20,938.5	$12,359.9	$13,735.1	$1,375.2
TOTAL:					
Salaries & Expenses	$2,662.1	$3,096.5	$2,756.7	$3,347.1	$590.4
Abatement Control and Compliance	$8,742.6	$17,842.0	$9,603.2	$10,388.0	$784.8
Radon Action Program TOTAL	$11,404.7	$20,938.5	$12,359.9	$13,735.1	$1,375.2
PERMANENT WORKYEARS					
Radon Action Program	38.5	54.7	49.5	51.1	1.6
TOTAL PERMANENT WORKYEARS	38.5	54.7	49.5	51.1	1.6
TOTAL WORKYEARS					
Radon Action Program	39.4	54.7	49.5	51.1	1.6
TOTAL WORKYEARS	39.4	54.7	49.5	51.1	1.6

RADIATION

Radon Action Program

Budget Request

The Agency requests a total of $13,735,100 supported by 51.1 total workyears for 1991, an increase of $1,375,200 and 1.6 total workyears from 1990. Of the request, $3,347,100 will be for the Salaries and Expenses appropriation and $10,388,000 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $590,400 in the Salaries and Expenses appropriation, an increase of $784,800 in the Abatement, Control and Compliance appropriation, and an increase of 1.6 total workyears.

RADON ACTION PROGRAM

1991 Program Request

The Agency requests a total of $13,735,100 supported by 51.1 total workyears for this program, of which $3,347,100 will be for the Salaries and Expenses appropriation and $10,388,000 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $590,400 in the Salaries and Expenses appropriation, an increase of $784,800 in the Abatement, Control and Compliance appropriation, and an increase of 1.6 total workyears. The increases reflect an increase in personnel and support costs, increased measurement and mitigation training and technical assistance to schools, and initiation of the National Survey of Radon in Schools.

In 1991 EPA will continue to conduct a comprehensive Radon Action Program through partnerships with states to minimize the health risks of radon exposure. The Agency will continue to assess the nation's radon problems in homes, schools, and other public buildings. The Agency will complete data analysis for the national survey of radon in residences and issue a final report. The Agency will also complete design of the national survey of radon in schools and initiate the survey. This survey will target high-risk areas, characterize the nature and extent of radon contamination in the nation's school buildings, and be complemented by the transfer of more detailed information about measurement and mitigation techniques to schools throughout the country. EPA will also provide assistance to three to five states in the design and execution of state-wide radon surveys, as well as to two Indian nations.

The national Radon Contractor Proficiency (RCP) Program will continue to evaluate the capability of mitigation firms and make the information available to the states and public. EPA will provide radon mitigation and prevention training through regional training centers; the House Evaluation Programs (HEPs), which provide hands-on radon measurement, mitigation, and prevention training to state personnel, private contractors, and home builders; the transfer of measurement and mitigation information to school officials through hands-on training and workshops; and the Radon Diagnostic and Mitigation Training Course. The Agency will complete national model building standards and release them to the public. The Agency will also work with building code organizations and local governments to promote the adoption of these standards.

The Agency will continue to operate the national Radon Measurement Proficiency (RMP) Program and provide information to the states and the public on the proficiency of measurement firms. EPA will also provide assistance to states in dealing with critical radon problems and will continue to develop the capabilities of state programs through oversight of the state grant program. The Agency will develop a national radon database and begin to operate a national radon information clearinghouse. The Agency will also promulgate user fee regulations and expects to begin collecting fees for its radon training and proficiency programs at the beginning of FY 1991.

EPA will issue the revised edition of the public information brochure, "A Citizen's Guide to Radon." The updated brochure will include information on health risks to special populations, costs and feasibility of radon mitigation, and a series of recommended action levels. The Agency will continue the national media campaign in cooperation with the Advertising Council and will develop a cooperative agreement with the American Lung Association to conduct public eduction and information programs. Other public information activities will include developing information and audiovisual materials for target audiences, co-sponsoring regional meetings with selected national organizations, and sponsoring a national radon symposium.

1990 Program

In 1990 the Agency is allocating a total of $12,359,900 supported by 49.5 total workyears for this program, of which $2,756,700 is from the Salaries and Expenses appropriation and $9,603,200 is from the Abatement, Control and Compliance appropriation.

In 1990 EPA is continuing to implement a comprehensive Radon Action Program to address and reduce the health impacts of radon exposure. Specific activities include completing the field operation and data collection phase of the national survey of radon in residences, completing the design of a national survey of radon in schools, developing protocols for measuring radon in schools, initiating development of measurement protocols for workplaces, and assisting Federal agencies with workplace studies. EPA is also continuing to assist individual states and Indian nations in the design and execution of surveys, including the collection of screening measurements in homes and the presentation of analyses of potentially high-risk radon areas to the public.

The Agency is also initiating the national RCP Program to evaluate the capability of firms to mitigate radon. EPA is assisting Federal agencies through mitigation training and continuing the transfer of measurement and mitigation information to school officials through hands-on training and workshops. Other radon mitigation and prevention activities include continuing the HEP, developing national model building standards, and offering three to five sessions of the Radon Diagnostic and Mitigation Training Course to augment the regional training center program.

EPA is also continuing the national RMP Program to assure consumers of the ability of firms to accurately measure radon levels. In addition, Agency is continuing efforts to develop the capabilities of state and local personnel through three regional training centers. In 1990 EPA will select at least one additional regional training center and establish it through a cooperative agreement. The Agency is also designing a national indoor radon database and

a national radon information clearinghouse to collect and disseminate information on the radon problem.

EPA is developing technical and public information materials and making them available for distribution to state and Federal officials, the private sector, and homeowners. The Agency is continuing data evaluation and analysis to revise "A Citizen's Guide to Radon" and preparing a draft of the document. EPA will conduct a national media campaign in cooperation with the Advertising Council and continue regional meetings for health professionals with the American Medical Association (AMA). EPA/AMA are jointly developing a brochure on radon health effects for distribution this year. Finally, the Agency will propose a rule to establish user fees for services provided through the radon training and proficiency programs.

1989 Accomplishments

In 1989 the Agency obligated a total of $11,404,700 supported by 39.4 total workyears, of which $2,662,100 was from the Salaries and Expenses appropriation and $8,742,600 was from the Abatement, Control and Compliance appropriation.

EPA continued to implement the Radon Action Program to minimize the health risks of radon. Specific activities included continuing field work and data collection efforts associated with the national survey of radon in residences. The Agency also provided interim protocols for measuring and mitigating radon in schools and prepared for a national survey of radon in schools. EPA provided direct technical assistance to states, including assisting eight states in the design and conduct of intensive state-wide surveys.

In 1989 EPA continued to conduct the national RMP Program. In addition, the Agency developed the national RCP Program to evaluate radon mitigation firms and provide information to the public on the capability of firms working in the radon mitigation field. EPA also initiated the development of national model building standards for radon reduction in new construction.

The Agency established three regional training centers through cooperative agreements in 1989. EPA incorporated new technology into the HEP and evaluated and designed mitigation schemes for 20 homes in that program, through which nearly 200 state and private sector personnel were provided hands-on measurement and mitigation training. EPA also initiated similar training on a limited basis for school facility directors. The Agency updated the Radon Diagnostic and Mitigation Training Course and conducted seven sessions of the course in 1989.

The Agency developed technical and public information materials and made them available for distribution to state and Federal officials, the private sector, and homeowners. EPA also began data evaluation and analysis to revise "A Citizen's Guide to Radon." EPA and the AMA continued regional meetings for health professionals and initiated development of a joint EPA/AMA brochure on radon health effects.

RADIATION
Radon Action Program Implementation

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
PROGRAM						
Radon Action Program Implementation						
Salaries & Expenses		$795.8	$1,180.3	$1,410.5	$1,836.0	$425.5
	TOTAL	$795.8	$1,180.3	$1,410.5	$1,836.0	$425.5
TOTAL:						
Salaries & Expenses		$795.8	$1,180.3	$1,410.5	$1,836.0	$425.5
Radiation Program Implementation	TOTAL	$795.8	$1,180.3	$1,410.5	$1,836.0	$425.5
PERMANENT WORKYEARS						
Radon Action Program Implementation		15.2	27.3	28.2	37.7	9.5
TOTAL PERMANENT WORKYEARS		15.2	27.3	28.2	37.7	9.5
TOTAL WORKYEARS						
Radon Action Program Implementation		16.2	27.3	29.3	37.7	8.4
TOTAL WORKYEARS		16.2	27.3	29.3	37.7	8.4

RADIATION

Radon Action Program Implementation

Budget Request

The Agency requests a total of $1,836,000 supported by 37.7 total workyears for 1990, an increase $425,500 and 8.4 total workyears from 1990. All of the request will be for the Salaries and Expenses appropriation.

RADON ACTION PROGRAM IMPLEMENTATION

1991 Program Request

The Agency requests a total of $1,836,000 supported by 37.7 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $425,500 in the Salaries and Expenses appropriation and an increase of 8.4 total workyears from 1990. The increases reflect oversight required for the state grant and regional training center programs.

In 1991 Regional staff will continue to work through partnerships developed with states to implement the Agency's Radon Action Program. Regional staff will work with states to conduct EPA-assisted statewide surveys, and will help states that have completed their surveys to interpret the results and design effective follow-up programs. Three to five states and two Indian nations will conduct surveys in 1991, measuring radon levels in 7,000 to 10,000 homes. This will bring the number of Agency-assisted state surveys to approximately 35. The Regions will also continue to participate in the House Evaluation Programs (HEPs).

The Regions will be the focal point for implementation of the radon state grant program in 1991. Regions will review state grant applications against established criteria and will ensure that grant funds are used effectively.

The Regions will work with the Headquarters program, the states, and local governments in the design and implementation of surveys in schools and in workplaces, especially in Federal buildings, to further identify elevated radon levels. The Regions will provide direct oversight to the regional training centers, which also conduct testing for the national Radon Contractor Proficiency (RCP) Program. The Regions will also work with states and local governments for the adoption of radon building standards and will provide advice and assistance to states that want to establish additional consumer protection functions, such as licensing measurement and mitigation contractors.

The Regions will continue to provide information to states and members of the public. They will participate in or conduct educational programs, symposia, and workshops for state and local officials, contractors, and the public.

1990 Program

In 1990 the Agency is allocating a total of $1,410,500 supported by 29.3 total workyears for this program, all of which is from the Salaries and Expenses appropriation.

In 1990 the Regional Offices are continuing to support implementation of the Radon Action Program by supporting the development of state and local radon capabilities and by coordinating radon activities at the state and local level. Regions are overseeing implementation of the Agency's new radon state grant program, including assisting states in their development of applications for Federal assistance, negotiating the grants, and reviewing states' use of grant funds. Additionally, EPA is assisting eight states in the design and execution of state-wide radon surveys. Through these surveys, states will collect screening measurements in 15,000 to 20,000 homes and the Regions will assist in making the results available to the public.

The Regions oversee the operation of regional training centers and arrange presentations of the Radon Diagnostic and Mitigation Training Course at selected locations. In 1990 the Regions are also assisting the states in their efforts to conduct the course independently. The Regions are participating in the HEP. The Regions are providing support to the states to help them address the most critical radon problems as they are discovered. This support is geared toward promoting state self-sufficiency. The Regions are also assisting in the distribution of EPA's public information materials and participating in numerous public awareness activities.

1989 Accomplishments

In 1989 the Agency obligated a total of $795,800 supported by 16.2 total workyears, all of which was from the Salaries and Expenses appropriation.

In 1989 Regional Offices continued to coordinate activities to support the implementation of the radon program by providing direct support to the states in the development of state capabilities. This included assistance in developing state survey designs, review of state plans for participation in the national assessment of indoor radon, assistance in the development of state radon capabilities, participation in the HEP, and technical advice and assistance to state and local governments.

The Regions assisted in the selection of sites for regional training centers and provided assistance to states in their development of applications to the state grant program which is issuing grants for the first time in 1990. The Regions also participated in the presentation of the Radon Diagnostic and Mitigation Training Course. The Regions provided support to states to deal with critical radon problems. The Regions also continued to assist in the distribution of public information materials, conduct outreach programs to the public and local agencies as part of a continuing radon educational program, and participate in radon public awareness activities.

RADIATION
Radon State Grants Program

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)			
PROGRAM					
Radon State Grants Program					
Abatement Control and Compliance		$984.6	$8,972.1	$9,000.0	$27.9
TOTAL		$984.6	$8,972.1	$9,000.0	$27.9
TOTAL:					
Abatement Control and Compliance		$984.6	$8,972.1	$9,000.0	$27.9
Radon State Grants Program TOTAL		$984.6	$8,972.1	$9,000.0	$27.9

RADIATION

Radon State Grant Program

Budget Request

The Agency requests a total of $9,000,000 for 1991, an increase of $27,900 from 1990. All of the request will be for the Abatement, Control and Compliance appropriation.

RADON STATE GRANT PROGRAM

1991 Program Request

The Agency requests a total of $9,000,000 for this program, all of which will be for the Abatement, Control and Compliance appropriation. This represents an increase of $27,900 in the Abatement, Control and Compliance appropriation from 1990. The increases are to provide additional direct funding to states.

In 1991 EPA will continue to issue grants to states to assist in the development and implementation of programs to assess and mitigate radon. State programs funded through these Federal grants will continue to include activities such as carrying out radon surveys; establishing radon assessment, mitigation, and control programs; developing public information and education materials; developing data storage and management systems; operating radon hotlines; and purchasing analytical equipment. In 1991, the second year of program, states must provide a 40 percent match to Federal funding.

Headquarters, in cooperation with the Regions, will continue to develop criteria used to evaluate states' use of grant funds. In 1991 this will include criteria for assessing state efforts to ensure the adoption of model building standards as directed in Section 306 of the Indoor Radon Abatement Act. The Agency will continue to provide national oversight of the grant program.

1990 Program

In 1990 the Agency is obligating a total of $8,972,100 for this program, all of which is from the Abatement, Control and Compliance appropriation.

In 1990, for the first time, EPA is issuing grants to states to assist them in the development and implementation of programs to assess and mitigate radon. State programs funded through these Federal grants include activities such as carrying out radon surveys; establishing radon assessment, mitigation, and control programs; developing public information and educational materials; developing data storage and management systems; operating radon hotlines; and purchasing analytical equipment. Headquarters, in cooperation with the Regions, is developing the specific criteria used to evaluate state grant applications and will oversee administration and evaluation of the national program.

1989 Accomplishments

This grant program is being initiated in 1990.

8. Multimedia

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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MULTIMEDIA

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
APPROPRIATION					
Salaries & Expenses	$36,040.9	$41,702.9	$42,029.9	$54,146.6	$12,116.7
Abatement Control and Compliance	$9,698.2	$12,149.3	$11,918.4	$16,641.7	$4,723.3
Research & Development	$34,125.1	$69,773.2	$72,912.9	$95,631.1	$22,718.2
TOTAL, Multimedia	$79,864.2	$123,625.4	$126,861.2	$166,419.4	$39,558.2
PERMANENT WORKYEARS	598.2	776.0	723.1	841.5	118.4
TOTAL WORKYEARS	641.4	776.0	744.3	841.5	97.2
OUTLAYS	$66,049.9	$115,606.1	$115,082.1	$153,027.4	$37,945.3
AUTHORIZATION LEVELS	All authorization except for Research and Development is by virtue of the Appropriation Act. The Environmental Research, Development and Demonstration Act expired September 30, 1981. Reauthorization is pending.				

MULTIMEDIA

OVERVIEW AND STRATEGY

The Environmental Protection Agency's (EPA) Multimedia program is composed of activities that provide support to all media programs. Such support addresses environmental concerns that affect several media. This includes the multimedia research program, Federal agency environmental compliance program, the National Environmental Policy Act (NEPA) compliance program, and the legal support and criminal program of the Agency's enforcement activities.

Multimedia Research

The Multimedia Research Program consists of two major components: long-term "core" research and other multimedia research activities.

The Core Research program consist of four major research areas of focus in which the Agency is strengthening its long-term environmental research capabilities. These are:

1. Ecological risk,
2. Health risk,
3. Risk reduction, and
4. Exploratory research grants and academic research centers.

These areas are designed to: increase our knowledge and understanding of system-wide environmental problems; determine what impacts ecological changes have on human health, and improve our ability to anticipate and prevent pollution;

Specifically, the Ecological Risk area will define indicators to assess ecological health, collect statistics and other relevant data to define ecological quality trends and report on them periodically. The Health Risk area will develop dose-response and exposure models for estimating the effects of environmental pollution on humans. The Risk Reduction area will develop new tools and strategies for pollution prevention involving industry, state and local governments, communities, and individuals. The Exploratory Research Grants and Academic Centers area will provide support for long term exploratory environmental research through grants and academic research centers.

Other multimedia research activities will continue to: develop uniform risk assessment guidelines and coordinate with other agencies through the Risk Assessment Forum; provide production and transfer of technical and scientific information products; provide centralized guidance and management for the Agency's Quality Assurance efforts; promote the Visiting Scientist and the Small Business Innovative Research programs; support national and international cooperative efforts to understand pollutant exposures and human health effects and; ensuring that the Agency acquires state-of-the-art scientific instrumentation to produce quality research and attract and retain the highest quality researchers.

Abatement, Control, and Compliance

This Multimedia Program consist of two major activities to ensure multimedia environmental compliance by Federal organizations and related groups and promote transfer of technical information to organization outside EPA.

The Environmental Review and Coordination Program accomplishes statutory objectives of three authorities: the National Environmental Policy Act (NEPA); Clean Air Act, Section 309; and Executive Order 12088 - Federal Compliance with Pollution Control Standards. This program also includes four program activities to support Regional multimedia projects and EPA technology transfer activities. The NEPA compliance program assures EPA's actions comply with the intent of NEPA. This includes reviews of Agency programs that are not specifically covered by NEPA. The Federal facilities compliance program oversees Federal compliance with all Federal statutory environmental requirements, and specifically with Executive Order 12088. The Indians program develops and implements policies for dealing with environmental problems on Indian lands. Regional multimedia projects enable rapid response to unique environmental problems.

EPA's overall technology transfer activities are intended to improve efficiency and performance in environmental programs through technology transfer and information exchange.

Enforcement

The Enforcement Legal Support Program provides consistent direction to EPA enforcement activities for all non-Superfund and non-LUST media to ensure that all media enforcement programs contribute to the protection of environmental quality in the most effective manner possible. To accomplish this goal, this program establishes compliance monitoring and enforcement priorities, policies, and procedural guidelines so that enforcement actions are properly selected and prepared and establishes measures to ensure policies and procedures are correctly implemented by the media enforcement programs and Regional offices. It conducts all legal case development, litigation, and adjudicatory hearing activities for media enforcement programs, including oversight of evidence gathering, preparation and management of cases, and referral of cases to the Department of Justice for litigation.

In addition, this program contains the Agency's criminal investigations effort which investigates, prepares, and refers cases involving criminal violations of environmental statutes. Investigators and attorneys provide support to the Department of Justice during subsequent investigations and litigation of these cases.

The National Enforcement Investigations Center (NEIC) provides specialized technical expertise in support of EPA enforcement case preparation activities. NEIC serves as a point of coordination and support for complex investigations which have a national impact on environmental enforcement.

Consulting Services

Consulting services are used on an intermittent basis to supplement technical expertise in the Multimedia Research Program.

Research and Development

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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Multimedia Research

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Scientific Assessment					
Salaries & Expenses	$2,357.2	$2,614.2	$2,585.0	$2,712.8	$127.8
Research & Development	$2,014.1	$4,769.7	$4,718.9	$1,844.8	-$2,874.1
TOTAL	$4,371.3	$7,383.9	$7,303.9	$4,557.6	-$2,746.3
Quality Assurance Management					
Salaries & Expenses	$826.3	$887.9	$875.9	$951.9	$76.0
Research & Development	$845.5	$821.0	$812.3	$1,808.9	$996.6
TOTAL	$1,671.8	$1,708.9	$1,688.2	$2,760.8	$1,072.6
Technical Information & Liaison					
Salaries & Expenses	$4,856.3	$5,395.2	$5,365.6	$6,020.0	$654.4
Research & Development	$4,929.7	$3,031.7	$4,882.7	$5,352.7	$470.0
TOTAL	$9,786.0	$8,426.9	$10,248.3	$11,372.7	$1,124.4
Health Effects					
Salaries & Expenses				$482.5	$482.5
Research & Development				$1,115.8	$1,115.8
TOTAL				$1,598.3	$1,598.3
Core Research - Health Risk					
Salaries & Expenses				$1,745.0	$1,745.0
Research & Development				$12,209.8	$12,209.8
TOTAL				$13,954.8	$13,954.8
Human Exposure					
Salaries & Expenses	$122.8	$845.3	$933.9		-$933.9
Research & Development	$198.9	$3,209.3	$3,175.1		-$3,175.1
TOTAL	$321.7	$4,054.6	$4,109.0		-$4,109.0
Reducing Uncertainties in Risk Assessments					
Salaries & Expenses	$294.2	$274.0	$270.4		-$270.4
Research & Development	$9,943.6	$9,845.0	$9,740.2		-$9,740.2
TOTAL	$10,237.8	$10,119.0	$10,010.6		-$10,010.6
Multimedia Activities					
Salaries & Expenses				$410.9	$410.9
Research & Development				$2,695.0	$2,695.0
TOTAL				$3,105.9	$3,105.9
Core Research - Grants and Centers					
Salaries & Expenses				$1,437.6	$1,437.6
Research & Development				$32,839.9	$32,839.9
TOTAL				$34,277.5	$34,277.5

MULTIMEDIA
Multimedia Research

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
Exploratory Research					
Salaries & Expenses	$946.0	$1,135.7	$1,155.1		-$1,155.1
Research & Development	$16,193.3	$24,257.6	$23,998.6		-$23,998.6
TOTAL	$17,139.3	$25,393.3	$25,153.7		-$25,153.7
Core Research - Ecological Risk					
Salaries & Expenses				$1,572.3	$1,572.3
Research & Development				$25,114.2	$25,114.2
TOTAL				$26,686.5	$26,686.5
Ecological Status And Trends					
Salaries & Expenses		$784.1	$1,023.5		-$1,023.5
Research & Development		$16,947.4	$16,766.9		-$16,766.9
TOTAL		$17,731.5	$17,790.4		-$17,790.4
Core Research - Risk Reduction					
Salaries & Expenses		$212.9	$210.1	$425.0	$214.9
Research & Development		$2,953.5	$2,922.1	$4,200.0	$1,277.9
TOTAL		$3,166.4	$3,132.2	$4,625.0	$1,492.8
Capital Investments					
Research & Development		$3,938.0	$5,896.1	$8,450.0	$2,553.9
TOTAL		$3,938.0	$5,896.1	$8,450.0	$2,553.9
TOTAL:					
Salaries & Expenses	$9,402.8	$12,149.3	$12,419.5	$15,758.0	$3,338.5
Research & Development	$34,125.1	$69,773.2	$72,912.9	$95,631.1	$22,718.2
Multimedia Research TOTAL	$43,527.9	$81,922.5	$85,332.4	$111,389.1	$26,056.7
PERMANENT WORKYEARS					
Scientific Assessment	35.2	44.1	39.0	40.1	1.1
Quality Assurance Management	11.6	14.5	14.5	14.5	0.0
Technical Information & Liaison	54.3	72.0	72.0	72.0	0.0
Core Research - Health Risk				19.0	19.0
Human Exposure	.7	13.0	13.0		-13.0
Reducing Uncertainties in Risk Assessments	1.7	4.0	4.0		-4.0
Multimedia Activities				4.0	4.0
Core Research - Grants and Centers				12.0	12.0

MULTIMEDIA
Multimedia Research

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)			
Exploratory Research	13.9	15.0	15.0		-15.0
Core Research - Ecological Risk				14.0	14.0
Ecological Status And Trends		12.0	12.0		-12.0
Core Research - Risk Reduction		4.0		5.0	5.0
TOTAL PERMANENT WORKYEARS	117.4	178.6	169.5	180.6	11.1
TOTAL WORKYEARS					
Scientific Assessment	39.1	44.1	39.0	40.1	1.1
Quality Assurance Management	11.9	14.5	14.5	14.5	0.0
Technical Information & Liaison	58.8	72.0	72.0	72.0	0.0
Core Research - Health Risk				19.0	19.0
Human Exposure	.7	13.0	13.0		-13.0
Reducing Uncertainties in Risk Assessments	2.9	4.0	4.0		-4.0
Multimedia Activities				4.0	4.0
Core Research - Grants and Centers				12.0	12.0
Exploratory Research	14.0	15.0	15.0		-15.0
Core Research - Ecological Risk				14.0	14.0
Ecological Status And Trends		12.0	12.0		-12.0
Core Research - Risk Reduction		4.0		5.0	5.0
TOTAL WORKYEARS	127.4	178.6	169.5	180.6	11.1

MULTIMEDIA

Multimedia Research

Principal Outputs by Objective

Objective 1: Uniform Risk Assessments

1991:
- Final guidelines for neurotoxicity and final guidance for non-cancer health effects and cancer.
- Initial guidelines on pharmacokinetics and ecotoxicity.
- Agency-wide implementation/training program for the enhanced IRIS delivery system.

1990:
- Final guidelines for exposure measurements and for male and female reproductive effects.
- Final amendments for guidelines on developmental toxicity.
- Proposed guidelines for neurotoxicity, quantitative guidance for non-cancer health effects and amendments to the cancer guidelines.
- Risk Assessment Forum analyses of specific risk assessment issues.
- Additional EPCRA right-to-know chemicals to IRIS.

1989:
- Proposed amendments to current guidelines for exposure measurements and for developmental toxicity.
- Inhalation reference doses added to IRIS.
- Risk Assessment analyses of specific risk assessment issues.

Objective 2: Lead Abatement

1990:
- Lead exposure abatement planning document.
- Progress report on the status of projects to reduce lead and human exposure.

1989:
- No program in 1989.

Objective 3: Quality Assurance Program

1991:
- Supplementary guidance on Data Quality Objectives.
- Two QA Management Systems Reviews of major EPA environmental data operations.

- o 25 QA Program Plans reviewed.
- o Three QA training courses developed.
- o Preliminary report on Audit of Data Quality protocols.

1990:
- o Two QA Management Systems Reviews of major EPA environmental data operations.
- o 25 QA Program Plans reviewed.
- o Three QA training courses developed.
- o Final version of glossary of QA terminology.
- o Pilot of alternative procedures for QC optimization in a chemistry laboratory.

1989:
- o Management Systems Review of a major EPA environmental data operation
- o 25 QA Program Plans reviewed.
- o Two QA training courses developed.
- o Draft version of glossary of QA terminology.
- o Alternative procedures for QC optimization in a chemistry laboratory.

Objective 4: Regional Analytical Methods

1991:
- o Report to the Environmental Monitoring Management Council on Regional methods activities.
- o Regional Action Plan: Research needs and priorities.
- o Work Plan for Regional Methods Program.

1990:
- o No program in 1990.

Objective 5: Technology Transfer

1991:
- o Series of industry-specific clean technology application guides providing information and research results on clean technology and waste reduction applications.
- o Handbook on Municipal Sludge Landfills.
- o Handbook presenting Best Available Control Technology (BACT) information on air pollutants harmful to human health but not regulated.

1990: o Seminar series on the statistical procedures used to detect groundwater contamination at hazardous waste facilities.

o Workshops on the use of the expert system for evaluating and improving POTW performance.

o Handbook on toxic air pollutant risk assessment and control alternatives.

1989: o Seminar series on innovative technologies for municipal wastewater treatment facilities.

o Handbook on sampling and analysis methods for toxic emissions from incinerators.

o Seminar series and publication on how to conduct sanitary surveys of small drinking water treatment facilities.

Objective 8: Task Force on Environmental Cancer and Heart and Lung Disease

1991: o Proceedings of the Second National Conference on Risk Communications.

1990: o Workshop Report on exposure to pesticides.

o Proceedings of the workshop on environmental and occupational asthma.

1989: o Workshop proceedings on effective risk communications: Governmental and non-governmental roles.

Objective 9: Harvard Study

1989: o Variations in susceptibility to inhaled pollutants: Identification, mechanisms, and policy implications.

Objective 10: China Program

1991: o Report on lung cancer risk due to indoor air pollution in Xuan-Wei, China.

1990: o Interim report on chemical indoor air pollution constituents associated with lung cancer in Xuan-Wei, China.

Objective 11: NHANES-III

1991: o Annaul Status Report on NHANES-III Cooperative Research

1990: o Annaul Status Report on NHANES-III Cooperative Research

1989: o Annaul Status Report on NHANES-III Cooperative Research

Objective 12: Human Exposure

1991: o Final report on TEAM Study of particles and metals.

o Report on breath analysis in high exposure sources.

1990: o Completion of continuous personal monitor for NO_2.

1989: o Final report on NOPES Study of exposure to household pesticides.

o Final report on TEAM Studies of VOCs in Los Angeles, Baltimore, and New Jersey.

Objective 13: Reducing Uncertainties In Risk Assessments (RURA-Health)

1991: o Annual Report on the RIHRA research program.

1990: o Research Program Strategy to Improve Health Risk Assessments.

o Initial research in the areas of human exposure assessment and characterization of uncertainties in health risk assessment.

1989: o Integrated approach to evaluate/characterize the uncertainties in risk assessments.

o Research Plan to Improve Health Risk Assessments program Research Plan.

Objective 14: Epidemiology Research Center

1991: o Cooperative Agreement for epidemiology research center.

1990: o No program in 1990.

Objective 15: Visiting Scientists Program

1991: o Solicitation and selection of scientists and engineers for 1991 Visiting Scientists and Engineers Program.

o Solicitation and selection of candidates for 1991 Environmental Science and Engineering Fellows Program.

1990: o Solicitation and selection of scientists and engineers for 1990 Visiting Scientists and Engineers Program.

o Solicitation and selection of candidates for 1990 Environmental Science and Engineering Fellows Program.

1989: o 4 visitors under the Visiting Scientists and Engineers Program.

o 10 science or engineering fellows under the Environmental Science and Engineering Fellows Program.

o Annual Report on Visiting Scientist Program.

Objective 16: Small Business Innovative Research Program

1991: o Solicitation of proposals.

o Summary of Phase I and Phase II abstracts.

1990: o Solicitation of proposals.

o Summary of Phase I and Phase II abstracts.

1989: o Award of 27 Phase I (feasibility) and 12 Phase II (development) contracts.

o Published summary of abstracts.

Objective 17: Exploratory Research Grants

1991: o Solicitation of 1991 research grants proposals.

o Annual report on Exploratory Research Grants Program.

o Bibliography of research grant articles published.

1990: o Solicitation of 1990 research grants proposals.

o Annual report on Exploratory Research Grants Program.

o Bibliography of research grant articles published.

1989: o Awarded 64 new Exploratory Research Grants.

o Published over 100 technical articles in journals.

o Annual report on Exploratory Research Grants Program.

Objective 18: Academic Research Centers

1991: o Selection of new Academic Research Centers.

o Annual report on Academic Research Centers Program.

1990: o Prepare solicitation for new centers.

- o Annual report on Academic Research Centers Program.

1989: o Annual report on Academic Research Centers Program.

Objective 19: Ecological Monitoring and Assessment

1991: o Final Program Plan For Gulf Of Mexico Project.

- o Draft Report On The Gulf Of Mexico Project Implementation Plan for Forest Monitoring and Assessment.
- o Implementation Plan for Agroecosystem Monitoring and Assessment.
- o Implementation Plan for Desert, Grassland, and Rangeland Monitoring and Assessment.
- o Annual Report On Forest Pilot Project in the Northeastern U.S.

1990: o Assessment of Surface Water Ecosystem Condition.

- o Draft Program Plan for the Gulf of Mexico Project.
- o Final Research Plan For EMAP Near-Coastal Monitoring and Assessment Program.
- o Quality Assurance Program Plan for EMAP.
- o Assessment for Forest Ecosystems.
- o Assessment for Desert, Rangeland, and Grassland Ecosystems.

1989: o Preliminary evaluation of ecosystem classification schemes.

- o Research plan for evaluating condition of ecosystems.
- o Development of an integrated approach to reduce uncertainties in ecological risk assessment.

Objective 20: Reducing Uncertainties in Risk Assessments (RURA-Ecological)

1991: o Final Report On The Near-Coastal Demonstration Project in the Virginian Province.

- o Integrated Research Plan for The Development Of Assessment And Management Tools To Reduce Uncertainties In Ecological Risk Assessment.

1990: o Demonstration Assessment for Near-Coastal Systems in the Virginian Province.

- o Final Sampling Plan For The Near Coastal Demonstration Project.

- o Data management system for near coastal demonstration project.
- o Implementation Plan For Near Coastal Demonstration Project.
- o Final Research Plan: Reducing Uncertainties in Ecological Risk Assessment.

1989: o Conceptual Overview for the Environmental Monitoring and Assessment Program.

- o Draft Research Plan: Reducing Uncertainties In Ecological Risk Assessment. (RUERA)

Objective 21: Pollution Prevention

1991: o Study on environmental impacts of consumer products to determine if labelling can be used to identify clean products.

- o Study on promoting pollution prevention and environmental eduction in secondary schools.
- o Study on alternatives for some ozone depleting chemicals to determine if recycling and/or substitutes are available.

1990: o Expanded Pollution Prevention Information Clearinghouse including the hardcopy repository, telephone hotline and electronic information exchange system.

- o Measurement methodology for hazardous/non-hazardous pollution prevention.
- o Product specific projects initiated on preventing indoor air quality problems from building materials and household products.

1989: o No program in 1989.

Objective 22: Information and Communications

1991: o Cooperative Agreements.

1990: o Research Plan for Information and Communications Program.

- o Solicitation for 1991 research and development projects.

1989: o No program in 1989.

MULTIMEDIA

Multimedia Research

Budget Request

The Agency requests a total of $111,389,100 supported by 180.6 total workyears for the Multimedia (formerly the Interdisciplinary) Research program in 1991. This is an increase of $26,056,700 and an increase of 11.1 total workyears from 1990. Of the total request, $15,758,000 will be for the Salaries and Expenses appropriation and $95,631,100 will be for the Research and Development appropriation, an increase of $3,338,500 in the Salaries and Expenses appropriation and an increase of $22,718,200 in the Research and Development appropriation.

Program Objectives

The Multimedia Research budget subactivity consists of research programs which provide support to all program medias. These research programs include: Uniform Risk Assessments, Quality Assurance Management, Technical Information, Health Effects, Core Research Program (Ecological Risk, Health Risk, Risk Reduction, and Grants and Centers), and Capital Investments.

In 1991, EPA proposes a major reorganization within the Multimedia research program to better define research activities that are related to general multimedia support (e.g. Uniform Risk Assessments, Technology Transfer, Health Effects) and the new multimedia long-term research program (e.g. Core Research).

Objective 1: Uniform Risk Assessments. This research activity provides Agency-wide guidance to perform exposure and risk assessments. These guidelines are intended to ensure uniform assessments that rely on sound scientific principles and information.

Objective 2: Lead Abatement. This new research supports understanding and abatement techniques for lead primarily in paint, soils and drinking water.

Objective 3: Quality Assurance Program. This program provides policy direction, management guidance and oversight for the Agency's quality assurance program for environmental data operations.

Objective 4: Regional Analytical Methods. This new research program will evaluate, standardize and further develop analytical technologies that support Regional programs, while avoiding duplication and being consistent with the Agency's overall approach toward method development.

Objective 5: Technology Transfer. This program supports activities authorized under the Technology Transfer Act of 1986 (P.L. 99-502). This activity supports the development and delivery of technical information tools to Regions, States, counties, municipalities, Indian tribes, and media program offices.

Objective 6: Technical Information Product Management. This program provides overall management and coordination of technology transfer and technical

information activities related to research. This program facilitates the use of EPA research products and services and ensures the integration of Agency scientific and technical priorities among research offices and laboratories.

Objective 7: Regulatory Support. This research activity is responsible for ensuring the scientific quality of the Agency's regulations is scientifically sound. This is conducted through ORD participation in Agency regulatory work groups, review of alternative regulatory approaches, and continual analysis of regulatory requirements so that research programs are responsive to program and Regional office needs.

Objective 8: Task Force on Environmental Cancer and Heart and Lung Disease. This interagency task force was established by the Clean Air Act of 1977 to promote coordination and recommend research to determine and quantify the relationship between environmental factors and human diseases.

Objective 9: Harvard Study. This research activity supports the Harvard School of Public Health's Interdisciplinary Programs in Health. The primary objective of this program is to enlist scholars from the natural and social sciences to direct their energies toward finding new and better ways to address the most critical environmental problems facing society.

Objective 10: China Program. This research activity supports the United States' policy of scientific and technological cooperation with the People's Republic of China (PRC) as reflected in the 1980 US-PRC Environmental Protection Protocol.

Objective 11: National Health and Nutrition Examination Survey (NHANES-III). The third National Health and Nutrition Examination Survey is one of a series of studies conducted by the National Center for Health Statistics (NCHS) as a joint Federal effort to obtain health and nutrition data on a statistically representative sample of Americans.

Objective 12: Human Exposure. This research activity provides the methods, monitoring approaches and models to determine and predict the exposures of human populations to environmental pollutants with known precision.

Objective 13: Reducing Uncertainties In Health Risk Assessments (RURA-Health). This research activity, also called Research to Improve Health Risk Assessments (RIHRA), supports an integrated effort to reduce the uncertainties in and improve health risk assessment approaches.

Objective 14: Center for Environmental Epidemiology Research. This new research center provides comprehensive and systematic research to define, improve, and apply environmental epidemiology to improve regulatory decision making.

Objective 15: Visiting Scientists Program. This research activity develops and implements programs to enhance the quality and reputation of the Agency's research by attracting outside researchers to EPA facilities to collaborate with Agency researchers. It currently has two major elements: a Visiting Scientists and Engineers Program (VSEP) and an Environmental Science and Engineering Fellows Program (ESEFP). The major differences between the two are in the length of assignment and in the level of relevant experience required of participants.

Objective 16: Small Business Innovation Research (SBIR) Program. This program is mandated by the Small Business Innovation Development Act (P.L. 97-219) which requires EPA to set aside 1.25 percent of the Agency's Research and Development Appropriation to support small businesses engaged in developing equipment for pollution abatement and control and instrumentation for environmental monitoring.

Objective 17: Exploratory Research Grants. This research program supplements the fundamental scientific knowledge base crucial to sound applied environmental research. This is done by funding investigator-initiated environmental research proposals selected through a competitive peer review process. Support is provided in five general areas: environmental health, ecology and environmental biology, environmental engineering, air chemistry and physics, and water chemistry and physics.

Objective 18: Academic Research Centers. EPA Academic Research Centers provide multi-year research in defined areas of interest to the Agency. Research is carried out in a university setting.

Objective 19: Ecological Monitoring and Assessment. This research activity provides basic research, monitoring, and data gathering and manipulation to report periodically on the status, changes, trends and relationships among pollutant exposures and indicators of ecological conditions in the nation's ecosystems.

Objective 20: Reducing Uncertainties In Ecological Risk Assessments (RURA-Eco). This research activity supports an integrated approach to develop a better understanding of the structure and function of ecosystems in an effort to reduce the uncertainties associated with ecological risk assessments.

Objective 21: Pollution Prevention. This research program supports EPA's multimedia pollution prevention program. To develop the necessary information for implementation of effective national/ international pollution prevention programs, activities will be supported in six major areas: product research, process research, recycling and reuse research, socioeconomic and institutional research, anticipatory research, and technology transfer and technical assistance.

Objective 22: Information and Communications Program. This research activity provides information on alternative approaches to control pollution problems. The current regulatory approach (traditional command and control) is not appropriate for several of the emerging environmental problems (i.e., radon, global climate change, non-point source). Research will be conducted in five major areas: risk communication, incentives and disincentives, new technologies for information dissemination, technology commercialization and utilization, and education/training.

Objective 23: Capital Investments Program. This program activity provides EPA research laboratories with scientific equipment necessary to conduct investigations and analyses in a safe and timely manner with state-of-the-art research instrumentation and components available. This equipment enables ORD to recruit and nurture the highest quality scientists and engineers to conduct EPA's research activities.

SCIENTIFIC ASSESSMENT

1991 Program Request

The Agency requests a total of $4,557,600 supported by 40.1 total workyears for this program, of which $2,712,800 will be for the Salaries and Expenses appropriation and $1,844,800 will be for the Research and Development appropriation. This represents an increase of $127,800 and a decrease of $2,874,100 respectively with an increase of 1.1 workyears. The increase in the Salaries and Expenses appropriation reflects additional support for Risk Assessment Forum activities. The decrease in the Research and Development appropriation reflects no further funding requested for lead abatement research until the Agency's lead abatement plan is developed in 1990.

Uniform Risk Assessments. Risk assessment guidelines proposed during 1990 (e.g., neurotoxicity, quantitative guidance for non-cancer health effects, and cancer) will be issued as final guidance. New guidance related to pharmacokinetics and ecotoxicity will be developed. The Risk Assessment Forum will undertake projects designed to resolve difficult issues raised during the guidelines review. Reports that result will serve as supplements to these guidelines.

Emphasis in the Integrated Risk Information System (IRIS) will be on providing an Agency-wide implementation/training program for the enhanced IRIS delivery system. This will include communicating mixture toxicity and expanding the data base. An additional 160 chemical assessments will be added to the data base. Emphasis will be placed on comparison/validation of exposure assessment techniques. Continued development of the Compact Disk-Read Only Memory (CD-ROM) will contribute to this goal by establishing a comprehensive and conveniently searched and used data base for exposure assessment.

Lead Abatement. Research will continue research activities begun in 1990 on: lead based paint abatement; lead exposure analysis; biochemical and physiological indicators; toxicological and epidemiological studies; drinking water exposure; and the movement of lead through industrial processes. The Agency's Task Force on Lead Abatement will review this research and help define what future research is needed on lead abatement exposure reduction and related health effects.

1990 Program

In 1990, the Agency has allocated a total of $7,303,900 supported by 39.0 total workyears for this program, of which $2,585,000 is from the Salaries and Expenses appropriation and $4,718,900 is from the Research and Development appropriation.

For uniform risk assessments, new final guidelines are published for exposure measurements, male and female reproductive effects, and amendments for the 1986 developmental toxicity guidelines. New guidelines are proposed for neurotoxicity, quantitative guidance for non-cancer health effects, and amendments to the cancer guidelines issued in 1986. Forum reports on risk assessment issues (e.g., use of human evidence in carcinogen risk assessment, acceptability and interpretation of dermal developmental toxicity studies, and one vs. two-generation reproductive effects studies) are to be issued as final documents.

For lead abatement, research projects have been selected to better understand the risks from and controls for lead in the environment. Research is being conducted on: new technologies for controlling exposure to lead based paint; relationships of paint to dust; disposal alternatives for paint abatement debris; bioavailability of lead in paint and soil; lead exposure through soil; prenatal transplacental transfer of lead; proteins that bind lead; bone biokinetics of lead; movement of lead through groundwater; and lead particulates in drinking water. These research efforts are multi-year in scope and will continue through 1991.

1989 Accomplishments

In 1989, the Agency obligated a total of $4,371,300 supported by 39.1 total workyears for this program, of which $2,357,200 was from the Salaries and Expenses appropriation and $2,014,100 was from the Research and Development appropriation. Guidelines for exposure measurements and for amendments of the 1986 developmental toxicity guidelines were prepared. The Risk Assessment Forum issued a workshop report on EPA guidelines for carcinogen risk assessment and interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and dibenzofurans. Inhalation reference doses were added to the Integrated Risk Information System data base. A program to begin the evaluation of exposure uncertainties was begun.

QUALITY ASSURANCE MANAGEMENT

1991 Program Request

The Agency requests a total of $2,760,800 supported by 14.5 total workyears for this program, of which $951,900 will be for the Salaries and Expenses appropriation and $1,808,900 will be for the Research and Development appropriation. This represents an increase of $76,000 and $996,600 respectively with no increase in workyears. The increase in the Salaries and Expenses appropriation reflects an enhancement of inhouse support for the Quality Assurance Program. The increase in the Research and Development appropriation reflects initiation of a systematic program to assist the Regions in developing analytical methods.

Quality Assurance Program. The mandatory Agency-wide Quality Assurance (QA) program will provide policy guidance, technical support, and oversight to assure that environmental data provided to Agency decision makers are of the quality needed and claimed. The Quality Assurance Management Staff will assist 50 EPA organizations which carry out environmental data operations, to assure that these operations produce data of the type and quality which Agency managers need to make decisions.

Specific activities will include: development of supplementary guidance on Data Quality Objectives; support to EPA organizations pursuing the Data Quality Objectives process; initial development on a protocol for audits of data quality; QA Management Systems Reviews focusing on major EPA data operations; reviews of 25 QA Program Plans submitted by EPA offices and laboratories; development of QA training courses; continuing development of guidance on QA common practices; and preparation of a report to senior management on the status of the Agency's Quality Assurance Program.

Regional Analytical Methods. An action plan will be developed by the Regions which will identify their highest priority analytical methods research needs. The Office of Research and Development (ORD) will respond with a work plan to meet these needs. This process will be institutionalized as part of the activities of the Agency-wide Environmental Monitoring Management Council (EMMC). Emphasis will be placed on needs currently hampering the implementation or monitoring of regulatory programs. This effort will evaluate both laboratory and field methods to determine their applicability.

1990 Program

In 1990, the Agency allocated a total of $1,688,200 supported by 14.5 total workyears for this program, of which $875,900 is from the Salaries and Expenses appropriation and $812,300 is from the Research and Development appropriation. Quality assurance activities involve the implementation and evaluation of programs to support the development of Agency data which are adequate for internal use.

The 1990 program goal is to institutionalize within the Agency three basic quality assurance tools: (1) Data Quality Objectives; (2) Management Systems Reviews; and (3) QA Program Plans. The Quality Assurance Management Staff is pursuing this goal by means of a variety of ongoing programs involving guidance development, training, and technical support. Specific activities and outputs are comparable to those planned for 1991.

1989 Accomplishments

In 1989, the Agency obligated a total of $1,671,800 supported by 11.9 total workyears for this program, of which $826,300 was from the Salaries and Expenses appropriation and $845,500 was from the Research and Development appropriation. Accomplishments in 1989 included: the review of 25 QA Program Plans; performance of QA Management Systems Reviews; support to Agency organizations implementing the Data Quality Objectives process; documentation of alternative procedures for measurement method validation and laboratory quality control; quality assurance training program development; drafting a glossary of QA terminology; and preparing a status report to senior EPA management.

TECHNICAL INFORMATION AND LIAISON

1991 Program Request

The Agency requests a total of $11,372,700 supported by 72.0 total workyears, of which $6,020,000 will be for the Salaries and Expenses appropriation and $5,352,700 will be for the Research and Development appropriation. This represents an increase of $654,400 and $470,000 respectively with no change in workyears. Both of these increases represent an expansion of the technology transfer and Regional liaison activities to enhance scientific and technical knowledge of environmental protection.

Technology Transfer. Technology transfer is a process which responds to the scientific and technological information needs of the Regions, States, counties, municipalities, American Indian tribal governments, and client program offices. Available technology and technical data will be disseminated to States and localities to enable them to meet their regulatory, enforcement and pollution

prevention responsibilities. Products and services include: user guides; design manuals; handbooks; training seminars; and workshops. Also the ORD Regional Scientist Program which will continue to provide "on-site" assistance to Regions in identifying and addressing the applied research and technical support needs of the enforcement and regulatory community. The Regional Applied Research Effort (RARE) will accelerate ORD's response to more immediate high priority applied research needs in the Regions.

Technical Information Product Management. The overall management of technical information and technology transfer is an ongoing responsibility. Therefore, in 1991, this program will continue to facilitate the use of ORD products and services by promoting the timely transfer of appropriate technology and technical information to other Federal, State and local users. The program will continue to ensure the integration of Agency scientific and technical priorities across the ORD offices and laboratories. the Center for Environmental Research Information (CERI) will continue to perform the many functions that it has in previous years (e.g. processing and distributing ORD reports; producing project summaries; and coordination with NTIS). The National Environmental Technology Application Corporation (NETAC) will expand its solicitations and review of candidate technologies. Optimal use of NETAC facilities will be promoted. The hazardous materials handling and testing facilities offer unique features to potential commercial-scale technology developers and will become available in 1991. An increased number of environmental technologies will be brought to commercialization and "venture capital" will be secured.

Two activities will be initiated in 1991 to support the Agency's Pollution Prevention Program. The first activity will deliver required pollution prevention information and technology to small and medium sized industries and municipalities. The second activity is designed to assist in the establishment of pollution prevention centers at universities across the nation.

Regulatory Support. This program will continue to ensure that EPA research focuses on the most critical scientific and engineering issues associated with the Agency's regulatory development process, and that scientific uncertainties are fully documented for use by Agency policy makers.

1990 Program

In 1990, the Agency is allocating a total of $10,248,300 supported by 72.0 total workyears for this program, of which $5,365,600 is from the Salaries and Expenses appropriation and $4,882,700 is from the Research and Development appropriation. The program continues to provide overall management and coordination of ORD technology transfer and technical information activities to promote positive interactions among ORD offices and laboratories and ORD's clients. This program supports the development and delivery of ORD products, services and information tools. Ongoing activities in the regulatory support area focus on participation in Agency regulatory workgroups and continual analysis of Agency regulatory scientific requirements.

1989 Accomplishments

In 1989, the Agency obligated a total of $9,786,000 supported by 58.8 total workyears for this program, of which $4,856,300 was from the Salaries and Expenses appropriation and $4,929,700 was from the Research and Development appropriation.

The Regional Scientist program provided Regional Offices with senior ORD liaisons who serve as science advisors and "gateways" to the broad spectrum of available ORD resources. NETAC continued to develop solicitations to attract top candidates for commercialization of environmental technologies. The regulatory support program helped to ensure technically sound development of Agency regulations. Over 1,000 ORD documents and reports to ORD clients and the production of over 350 project summaries were tracked, processed and distributed. The Center for Environmental Research Information (CERI) responded to over 30,000 requests for information.

THE NEXT FOUR (4) PROGRAM ELEMENTS HAVE BEEN REORGANIZED IN 1991 TO BETTER MANAGE MULTIMEDIA HEALTH RESEARCH ACTIVITIES WITH THE NEW "CORE RESEARCH" PROGRAM.

HEALTH EFFECTS

1991 Program Request

The Agency requests a total of $1,598,300 supported by no workyears for this new program, of which $482,500 will be for the Salaries and Expenses appropriation and $1,115,800 will be for the Research and Development appropriation. This activity reflects the transfer of similar Multimedia research activities from the "Exploratory Research" program element.

Task Force on Environmental Cancer and Heart and Lung Disease. This Task Force will continue to evaluate the link between environmental factors and human diseases. Research recommendations will be provided by the Task Force to the Agency based on research needs identified by scientists. A national risk communications conference will be held in 1991.

Harvard Study. This research study will continue to identify and select post-doctoral research fellows and visiting scientists to work with Harvard faculty members on research projects that address critical environmental problems that face society.

China Program. This program, conducted under the 1980 US-PRC Environmental Protection Protocol, will begin to shift research from the study of lung cancer and indoor coal smoke pollution in a rural setting (Xuan-Wei) to a study of children's respiratory health across a wide gradient of particulate, acid, and sulfur oxide exposures in several Chinese cities. The focus in 1991 will be on a multi-city study of children's lung function and respiratory health. Efforts will continue in the area of environmental processes and effects of pollution on freshwater organisms, water pollution fate and transport modeling, and groundwater pollution processes.

1990 Program

The program activities in 1990 are described in other program elements as follows:

1. Task Force on Environmental Cancer and Heart and Lung Disease is described in the "Exploratory Research" program element of this Multimedia research program.

2. Harvard Study is described in the Drinking Water and Toxics Research media.

3. China Program is described in Water Quality, Drinking Water and the Air Research media.

1989 Accomplishment

1989 accomplishments for these program activities are described in the same program elements in 1989 as in 1990.

CORE RESEARCH-HEALTH RISK

1991 Program Request

The Agency requests a total of $13,954,800 for this new program supported by 19.0 total work years, of which $1,745,000 will be for the Salaries and Expenses appropriation and $12,209,800 will be for the Research and Development appropriation.

NHANES-III. This multi-year and multi-agency survey will continue. Efforts will focus on estimating the prevalence of disease and functional impairment, providing accurate data on the distribution of health characteristics such as growth and development, monitoring secular changes in disease, and identifying new risk factors for disease. EPA participation will help develop baseline data on measures of pulmonary function and neurobehavioral parameters. These data will be linked to various biological measures of exposure and questionnaire responses will allow an analysis of relationships between these functions and possible environmental factors.

Human Exposure. The Human Exposure program will complete the total exposure assessment methodology (TEAM) study of exposure to inhalable particles in a California city. Field work on the major survey to determine exposure-related activity patterns of the population will also be completed. Measurement methods for determining exposure to polar organics, ozone, polyaromatic hydrocarbons, and other pollutants will be developed. New microenvironments will be studied. Breath analysis and other biomarkers of exposure will be investigated.

Reducing Uncertainties in Health Risk Assessments (RIHRA). This program will continue to conduct research to improve health risk assessments in the areas of assessing uncertainty, exposure assessment, physiologically based pharmacokinetic modeling and biologically based dose response modeling. First research results are expected in a number of these topics in 1991.

Center for Environmental Epidemiology Research. This center responds to a major recommendation of the EPA Science Advisory Board which indicated that the agency should initiate a program of epidemiologic research. The new EPA Center for Environmental Epidemiology will be established to develop, validate, and apply epidemiologic methods to assess the status of public health, to identify potential and emerging problems, and to evaluate the efficacy of risk reduction measures.

1990 Program

The program activities in 1990 are described in other program elements as follows:

1. NHANES-III is described in the Air Research media.

2. Human Exposure is described in the "Human Exposure" program element within this Multimedia research program.

3. Reduction of Uncertainties in Risk Assessment (RIHRA) - Health is described in the "Reduction of Uncertainties in Risk Assessment" program element within this Multimedia research program.

1989 Accomplishments

1989 accomplishments for these program activities are described in the same program elements in 1989 as in 1990.

HUMAN EXPOSURE

1991 Program Request

No resources are requested in 1991 for activity in this program element since this activity is being reorganized into the new "Core Research - Health Risk" program element within this Multimedia research program.

1990 Program

The Agency is allocating a total of $4,109,000 supported by 13.0 total workyears for this program. Of this total, $933,900 is from the Salaries and Expenses appropriation and $3,175,100 is from the Research and Development appropriation.

This program focuses on research and evaluation of human exposure to environmental pollutants from all sources. In 1990, research activity will include a major survey to determine the activity patterns of the population including lifestyles and use of consumer products. Also included are several studies on microenvironments (home, work, transportation) of human exposure. Methods for evaluating exposures to volatile organics associated with major sources will be instituted. The existing TEAM (Total Exposure Assessment Methodology) Program will continue to provide direct measures of human exposures to make real life estimates of exposures. Data from each component of the program will be used to develop models of human exposure that can be used for extrapolation to entire populations at risk.

1989 Accomplishments

In 1989, the Agency obligated at total of $321,700 supported by 0.7 total workyears in this program activity. Of this total $122,800 was from the Salaries and Expenses appropriation, and $198,900 was from the Research and Development appropriation. Field work was completed on three studies of human exposure to Volatile Organic Compounds (VOC's) in Los Angeles, Baltimore and New Jersey.

Final work was also completed on the first study of human exposure to a broad spectrum of pesticides used in the household. In 1989, the majority of this program is described in the Air Research media.

REDUCING UNCERTAINTIES IN RISK ASSESSMENT (RURA)

1991 Program Request

No resources are requested in 1991 for activity in this program element since this activity is being reorganized into the following two new program elements within this Multimedia research program as follows:

1. Reducing Uncertainties in Health Risk Assessments (RIHRA) program element is described in the new "Core Research - Health Risk" program element and

2. Reducing Uncertainties in Ecological Risk Assessments (RUERA) program element is described in the new "Core Research - Ecological Risk" program element.

1990 Program

The Agency is allocating a total of $10,010,600 supported by 4.0 total workyears for this program, of which $270,400 is from the Salaries and Expenses appropriation and $9,740,200 is from the Research and Development appropriation.

Research to Improve Health Risk Assessments (RIHRA) continues in the areas of assessing uncertainty, exposure assessment, physiologically based pharmacokinetic (PB-PK) modeling, and biologically based dose response modeling.

Research to Reduce Uncertainties in Ecological Risk Assessments (RUERA) will address uncertainties associated with the structure and function of ecosystems, the identification, measurement, and interpretation of endpoints of ecological change, and the assessment of hazards associated with ecosystems stress. Initial emphasis will be placed on the characterization of the condition of near-coastal estuarine systems in the mid-Atlantic region and their exposure to stress. A demonstration project will identify indicators of estuarine ecosystem condition (in cooperation with the status and trends program) and then quantify them on a regional basis. These data will be used to assess the status of ecosystem condition in these systems and will be used as the basis for more detailed research in 1991.

1989 Accomplishments

In 1989, the Agency obligated a total of $10,237,800 supported by 2.9 total workyears for this program, of which $294,200 was from the Salaries and Expenses appropriation and $9,943,600 was from the Research and Development appropriation.

Research projects were initiated in all topics of the RIHRA Program. A work shop was held to identify the framework for research on the topic of uncertainty analysis and a number of areas of research focus were identified. Research was initiated in the topics of exposure assessment, physiologically based phamacokinetic parameters in risk assessment, and biologically-based dose response models.

In reducing uncertainties in ecological risk assessments, preliminary work was performed on ecosystem classification, monitoring network design, database management, and environmental statistics culminating in a research and implementation plan for the ecological trends program.

THE NEXT THREE (3) PROGRAM ELEMENTS HAVE BEEN REORGANIZED IN 1991 TO BETTER MANAGE GENERAL SCIENTIFIC MULTIMEDIA RESEARCH ACTIVITIES WITH THE NEW "CORE" RESEARCH PROGRAM.

MULTIMEDIA ACTIVITIES

1991 Program Request

The Agency requests a total of $3,105,900 supported by 4.0 total workyears for this new program of which $410,900 will be for the Salaries and Expenses appropriation and $2,695,000 will be for the Research and Development appropriation.

Visiting Scientists Program. This activity sponsors two unique programs to bring research scientist outside of EPA into the Agency to collaborate on environmental research projects and exchange their scientific understandings. Under the Visiting Scientists and Engineers Program, applicants will be selected to conduct research at EPA facilities in collaboration with Agency researchers on advanced environmental research topics identified by EPA laboratories. Under the Environmental Science and Engineering Fellows Program, in cooperation with the American Association for the Advancement of Science, 10 research fellows will be placed in EPA organizations to conduct policy studies on various high-priority issues identified by the Agency.

Small Business Innovation Research Program. This program will solicit, review and select proposals for Phase I and II awards. About 25 Phase I feasibility studies will be supported while about 13 Phase II projects will be awarded.

1990 Program

The program activities in 1990 are described in the Exploratory Research program element within this Multimedia research program.

1989 Accomplishments

1989 accomplishments for these program activities are described in the same program elements in 1989 as in 1990.

CORE RESEARCH - GRANTS AND CENTERS

1991 Program Request

The Agency requests a total of $34,277,500 supported by 12.0 total workyears for this new program, of which $1,437,600 will be for the Salaries and

Expenses appropriation and $32,839,900 will be for the Research and Development appropriation.

Exploratory Research Grants Program. Under a general solicitation, support will be granted to about 150 new projects while 130 ongoing projects will be granted continuation support. This program will emphasize: continued improvement in quality of research; coordination with the Agency's research planning process; dissemination of results from completed grants; and coordination with other Federal agencies. Seminars and workshops featuring the completed work of grantees will continue in Agency laboratories and at other locations around the country.

Academic Research Centers Program. The Agency's Academic Research Centers Program supports environmental studies of high priority to the Agency such as groundwater and hazardous waste control technologies. Management attention in the centers will focus on new trends and discoveries coming from ongoing research studies. An annual report will summarize the activities and accomplishments of these centers. Symposia, workshops and publications in journals, ensure that information learned from center studies is shared. New academic research centers will begin operation in 1991 since 1990 will be the final year of operation for seven centers and 1991 will be the final year for the eighth center.

1990 Program

The program activities in 1990 are described in the "Exploratory Research" program element within this Multimedia research program.

1989 Accomplishments

1989 accomplishments for these program activities are described in the same program elements in 1989 as in 1990.

EXPLORATORY RESEARCH

1991 Program Request

No resources are requested in 1991 for activity in this program element since this activity is being reorganized into the following two new program elements within this Multimedia research program as follows:

1. Grants and Centers program element is described in the new "Core Research -Grants & Centers" program element,

2. Task Force on Environmental Cancer and Heart and Lung Disease program element is described in the new "Health Effects" program element, and

3. Visiting Scientist program element and Small Business Innovative Research program element is described in the new "Interdisciplinary Activities" program element.

1990 Program

The Agency is allocating a total of $25,153,700 supported by 15.0 total workyears for this program. Of this total, $1,155,100 is from the Salaries and

Expenses appropriation and $23,998,600 is from the Research and Development appropriation.

The Task Force on Environmental Cancer and Heart and Lung Disease is planning to convene a workshop on environmental education and risk communication and is developing a revised inventory of environmental exposure databases. This activity is identified in the "Health Effects" program element in 1991.

The Visiting Scientists and Engineers Program expects to approve the support of five to ten prominent outside scientists or engineers at EPA laboratories to collaborate with Agency researchers on priority research projects. The Environmental Science and Engineering Fellows Program is supporting ten professionals at EPA organizations to investigate environmental policy issues.

The Small Business Innovation Research Program has allocated 1.25 % of the extramural research budget to support projects for the development of equipment and instrumentation for pollution control and environmental monitoring. Thirty-six such projects are supported.

The Exploratory Research Grants Program is supporting about 110 new projects and 42 ongoing projects. Seminars and workshops featuring the completed work of grantees continue in Agency laboratories and at other locations around the country.

The Academic Research Centers Program supports environmental studies of high priority to the Agency such as groundwater and hazardous waste control technologies. In 1990, the eight (8) EPA academic research centers and research focus are as follows:

1. Louisiana State University - Hazardous Waste Research,
2. Illinois Institute of Technology - Industrial Waste Elimination Research,
3. University of Illinois (Urbana) - Advanced Environmental Control Technology Research,
4. Rice, University of Oklahoma, and Oklahoma State University - Groundwater Research.
5. University of Rhode Island - Marine Sciences Research,
6. University of California (Los Angeles) - Intermedia Transport Research,
7. Cornell University - Ecosystems Research, and
8. University of Pittsburgh - Environmental Epidemiology,

Since 1990 is the final year of operation for seven centers, applications will be solicited and a competition will be held to select seven new academic research centers to begin in 1991.

1989 Accomplishments

In 1989, the Agency obligated a total of $17,139,300 supported by 14.0 total workyears for this program, of which $946,000 was from the Salaries and Expenses appropriation and $16,193,300 was from the Research and Development appropriation.

The Task Force on Environmental Cancer and Heart and Lung Disease supported a workshop on environmental and occupational asthma, completed the proceedings on a workshop on the roles of government and non-government organizations in risk communications, and continued work on the proceedings of workshops on evaluation of risk communications and the effects of pesticides exposure.

The Visiting Scientists Program approved the appointment of four (4) visitors under the Visiting Scientists and Engineers Program. Under the Environmental Science and Engineering Fellows Program, ten (10) visitors were assigned to EPA organizations to conduct policy studies.

A total of 39 awards were made to small high-technology firms under the Small Business Innovation Research Program: 27 Phase I feasibility studies and 12 Phase II development projects.

The Exploratory Research Grants Program awarded 50 new grants and provided continuation support for 12 ongoing projects. In addition, 14 projects were awarded under a Request for Applications (RFA) solicitation.

The Academic Research Centers Program provided continuation support for projects conducted at the eight university-based research centers.

THE NEXT TWO (2) PROGRAM ELEMENTS HAVE BEEN REORGANIZED IN 1991 TO BETTER MANAGE MULTIMEDIA ECOLOGICAL RESEARCH ACTIVITIES WITH THE NEW "CORE" RESEARCH PROGRAM.

CORE RESEARCH-ECOLOGICAL RISK

1991 Program Request

The Agency requests a total of $26,686,500 for this program supported by 14.0 total work years of which $1,572,300 is for the Salaries and Expenses appropriation and $25,114,200 will be for the Research and Development appropriation.

Core Research - Ecological Risk

The "core" research program in ecological risk will progress from program planning and development into the first phase of implementation. This will involve demonstration and pilot research projects in various ecosystems. Research activities on developing ecological indicators and landscape characterization will continue. The experience gained during the NOAA/EPA near-coastal demonstration monitoring project in the mid-Atlantic region will be used to implement monitoring in the Gulf of Mexico. A forest monitoring project, conducted by EPA and the U.S. Forest Service in the northeastern U.S., will move into a second phase in the southeastern U.S. Demonstration projects will be also be initiated in inland surface waters and agricultural systems. Emphasis on identifying and developing biological indicators of ecological condition will be marine, estuarine and freshwater systems.

The Ecological Monitoring and Assessment Program (EMAP) will further develop landscape characterizations and data to develop sampling frames for field monitoring projects. Results of several simulated assessments will be available and will provide the basis for developing long-term assessment protocols.

Reducing Uncertainties in Risk Assessment (RURA) - Ecological

Research in 1991 will emphasize selecting representative near-coastal estuaries for determining the causes of adverse conditions observed in the 1990 near-coastal demonstration monitoring project within the mid-Atlantic region. Research will focus on the diagnosis of observed conditions and developing tools and protocols for quantifying and predicting pollutant exposure and ecosystem responses. The goal of this research will be to develop a systems approach to ecological risk assessments by modeling responses from representative estuaries in the mid-Atlantic region from alternative risk management options.

1990 Program

The program activities in 1990 are described in the "Ecological Status and Trends" program element and the "Reducing the Uncertainties in Risk Assessment" program element within this Multimedia research program.

1989 Accomplishments

1989 accomplishments for these program activities are described in the same program elements in 1989 as in 1990.

ECOLOGICAL STATUS AND TRENDS

1991 Program Request

No resources are requested in 1991 for activity in this program element since this activity is being reorganized into the new "Core Research - Ecological Risk" program element within this Multimedia research program.

1990 Program

The Agency has allocated a total of $17,790,400 for this program supported by 12.0 total work years. Of this total, $1,023,500 is for the Salaries and Expenses appropriation and $16,766,900 is for the Research and Development appropriation.

1990 is the first year for this program designed to estimate the current status, changes, and trends in the condition of ecosystems to better determine the relationships between human- induced stresses and adverse changes in ecosystems. The initial emphasis is on developing and testing ecosystem monitoring indicators of surface waters, wetlands, forests, deserts, rangelands, grasslands and agricultural lands. From these indicators, national scale monitoring programs is planned to be designed. Assessments to evaluate these designs will later be preformed using existing and simulated data. Research on characterizing land use patterns and landscape ecology on a regional scale is being initiated. The near coastal demonstration project, started under the RURA-

Eco Program in 1989, is being expanded to the Gulf of Mexico. A joint EPA/USFS monitoring and demonstration project in forest ecosystems is also being initiated. Finally, EPA is also investigating, based upon the 1990 Appropriations Conference Report, the necessity of establishing a national environmental sciences institute, through an open and competitive process, which could provide a coordinated focus for basic long-term ecological research.

1989 Accomplishments

This program did not exist in 1989.

CORE RESEARCH-RISK REDUCTION

1991 Program Request

The Agency requests a total of $ 4,625,000 for this program supported by 5.0 total work years of which $425,000 is from the Salaries and Expenses appropriation and $4,200,000 is from the Research and Development appropriation. This represents increases of $214,900 and $1,277,900 respectively with an increase of 5.0 workyears. The increase in the Salaries and Expenses appropriation reflects support for conducting research on pollution prevention. The increase in the Research and Development appropriation reflects more support for the pollution prevention research.

Pollution Prevention. During 1991, emphasis will be on product research, technology transfer and technical assistance. In the area of product research, standard methods for evaluating pollution impacts from products will be established. Several cost-effective and environmentally preferable products will be demonstrated. A standardized pollution prevention opportunity assessment procedure will be developed and assessments conducted with selected industries. The program will also involve research on identifying opportunities for incorporating pollution prevention practices into the nation's industrial infrastructure. Emerging technologies and patterns of the use and disposal of resources will be identified. Potential changes to reduce releases of contaminants into the environment will be investigated. These pollution prevention research activities complement those described in the Hazardous Waste Research media request for 1991.

Information and Communications. The selection and implementation of viable, cost-effective risk reduction approaches are influenced by a variety of legal, scientific, economic and political factors. The traditional command and control approach is limited to environmental problems which can be solved with the current regulatory program. However, many of the recent environmental problems (radon, global climate change, non-point sources, etc.) are not amenable to the usual command and control approach. Instead, a variety of alternative approaches for pollution abatement, which we call information and communication, must be developed. Accordingly, research will be conducted in the following areas: risk communication; incentives and disincentives; technical information dissemination; commercialization and utilization; and education and training. EPA's research will be closely linked to its research products and integrated with Environmental Implementation Research Program being coordinated by EPA's Office of Policy, Planning and Evaluation.

1990 Program

The Agency has allocated a total of $3,132,200 for this program supported by no workyears of which $210,100 is from the Salaries and Expenses appropriation and $2,922,100 is from the Research and Development appropriation.

During 1990, this program is building on the on-going effort in waste minimization being conducted as part of the Hazardous Waste Research program. Specifically, the on-going activities in innovative technology evaluations are underway to make them applicable across all media programs. Several evaluations are being undertaken to prevent pollution, especially those emitting discharges to the air. Industry-specific pollution prevention assessment manuals are being revised to make them applicable to identify pollution prevention opportunities in all media.

1989 Accomplishments

This program did not exist in 1989.

CAPITAL INVESTMENTS

1991 Program Request

The Agency requests a total of $8,450,000 in the Research and Development appropriation supported by no workyears for scientific research equipment. This represents an increase of $2,553,900 in the Research and Development appropriation. This increase will allow EPA: (a) partially replace old research equipment more than seven years old and (b) procure new scientific research equipment to upgrade the current inventory at EPA research laboratories to more state-of-the-art.

1990 Program

The Agency has allocated $5,896,100 of the Research and Development appropriation with no workyears for replacement of aging and procurement of new scientific research equipment at EPA research laboratories.

1989 Accomplishments

The Agency was authorized $2,000,000 from within the Research and Development appropriation for replacement of scientific research equipment. This authority was used, but obligations were made in other media research programs, therefore, no obligations are identified in this program element in 1989.

Abatement and Control

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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MULTIMEDIA
Environmental Review and Coordination

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Environmental Review and Coordination					
Salaries & Expenses	$4,616.9	$5,333.7	$5,490.5	$5,410.3	-$80.2
Abatement Control and Compliance	$4,973.2	$6,920.9	$6,761.4	$9,900.0	$3,138.6
TOTAL	$9,590.1	$12,254.6	$12,251.9	$15,310.3	$3,058.4
TOTAL:					
Salaries & Expenses	$4,616.9	$5,333.7	$5,490.5	$5,410.3	-$80.2
Abatement Control and Compliance	$4,973.2	$6,920.9	$6,761.4	$9,900.0	$3,138.6
Environmental Review and Coordination TOTAL	$9,590.1	$12,254.6	$12,251.9	$15,310.3	$3,058.4
PERMANENT WORKYEARS					
Environmental Review and Coordination	99.4	124.9	108.0	114.9	6.9
TOTAL PERMANENT WORKYEARS	99.4	124.9	108.0	114.9	6.9
TOTAL WORKYEARS					
Environmental Review and Coordination	106.2	124.9	114.8	114.9	.1
TOTAL WORKYEARS	106.2	124.9	114.8	114.9	.1

ENVIRONMENTAL REVIEW AND COORDINATION

Budget Request

The Agency requests a total of $15,310,300 supported by 114.9 total workyears for 1991, an increase of $3,058,400 and an increase of 0.1 total workyears from 1990. Of the request, $5,410,300 will be for the Salaries and Expenses appropriation and $9,900,000 will be for the Abatement, Control and Compliance appropriation. This represents a decrease of $80,200 in the Salaries and Expenses appropriation, and an increase of $3,138,600 in the Abatement, Control and Compliance appropriation.

1991 Program Request

The Agency requests a total of $15,310,300 supported by 114.9 total workyears, of which 5,410,300 will be for the Salaries and Expenses appropriation and $9,900,000 will be for the Abatement, Control and Compliance appropriation. This represents a decrease of $80,200 for Salaries and Expenses, an increase of $3,138,600 for Abatement, Control and Compliance, and an increase of 0.1 total workyears.

The decrease in Salaries and Expenses reflects lower costs in 1991 compared to one-time costs experienced in 1990. The workyear increase will support the Federal Facility Compliance component of this program by improving identification, tracking and compliance monitoring of the Federal Facilities universe, increased coordination with States through State/EPA enforcement agreements, the development of model compliance agreements for RCRA/CERCLA sites and an improved and more systematic approach to technical/program assistance to Federal agencies at both Headquarters and Regional levels. The increase in Abatement, Control and Compliance will provide additional technical support and consultation to Indian Tribal governments, with an emphasis on developing and implementing technical and institutional solutions to environmental problems on Tribal lands.

In 1991, Abatement, Control and Compliance (AC&C) resources will fund a select number of pilot projects for the development and demonstration of self-sufficient Tribal environmental programs. EPA is undertaking a major initiative to provide technical assistance and guidance to Federal agencies establishing environmental auditing programs to ensure compliance. AC&C resources will also support Agency-wide multimedia environmental projects to enable rapid Regional response to significant or unique problems.

1990 Program

In 1990, the Agency is allocating a total of $12,251,900 and 114.8 total workyears, of which $5,490,500 is from the Salaries and Expenses appropriation and $6,761,400 is from the Abatement, Control and Compliance appropriation.

In 1990, the Environmental Review and Coordination (ER&C) program will begin a more aggressive effort to identify Federal facilities out of compliance with Federal environmental requirements and bring them into compliance. EPA will review and provide environmental design information on approximately 300 draft Environmental Impact Statements (EISs) for major projects and will conduct

approximately 1,500 environmental assessment reviews involving hydroelectric dams, modifications and flood control/water resource projects. The ER&C program will follow-up over 100 of these projects to resolve environmental problems. This program will identify, as early as possible, the environmental impacts of these proposed major Federal actions, and ensure correction of any adverse environmental impacts. EPA will provide continuing environmental assessment support for the municipal wastewater treatment construction grants program, the National Pollutant Discharge Elimination System (NPDES) new source permits program, and the research and development program of the Office of Research and Development. In addition, this program provides for the review, approval and oversight of State environmental review programs required as a prerequisite for participation in the State Revolving Fund (SRF) program. Environmental assessment support includes technical assistance to States in establishing National Environmental Policy Act (NEPA) oriented programs for the SRF and to support successful discharge of their delegated responsibilities under the Construction Grants program. The program will also assist EPA regional media program offices in their efforts to comply with other environmental laws affecting these programs.

Technical assistance and funding will continue to be provided to selected Indian Tribes. In 1990, the focus of the Indian Program will be: improved communication with Indian tribes, identification of priority environmental problems on reservation lands, and the development of Tribal programs to address these problems in lieu of direct Federal implementation.

1989 Accomplishments

In 1989, the Agency obligated a total of $9,590,100 supported by 106.2 total workyears, of which $4,616,900 was from the Salaries and Expenses appropriation and $4,973,200 was from the Abatement, Control and Compliance appropriation.

In 1989, the NEPA program provided assistance to delegated state construction grants programs, ensured that EPA issued NPDES new source permits were in compliance with NEPA, assisted EPA's Office of Research and Development and laboratories in meeting NEPA requirements for research and development projects and assisted EPA Regional program offices in their efforts to comply with other environmental laws and to carry out reviews equivalent to NEPA. The Agency continued to assist Federal agencies in identifying facilities needing pollution controls, determined the most cost effective control, and resolved disputes at facilities which were out of compliance through use of the new EPA Federal Facilities Compliance Strategy. Emphasis was placed on hazardous waste problems on Federal installations. In addition, guidance was issued for Federal agencies to assist them in designing and implementing environmental auditing programs. The Agency also continued to work on the review of environmental impacts of proposed projects, regulations, and other major Federal actions as required by both NEPA and Section 309. The major objective to minimize the adverse environmental impact of Federal proposals was accomplished by: (1) effective liaison with other Federal agencies, (2) early identification of significant environmental issues, and (3) timely review of major actions. The Agency strengthened its Indian programs and provided technical assistance on priority environmental problems on Indian lands.

MULTIMEDIA
Office Of Cooperative Environmental Management

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
			(DOLLARS IN THOUSANDS)		
PROGRAM					
Office Of Cooperative Environmental Management					
Salaries & Expenses	$919.6	$728.6	$587.3	$740.1	$152.8
Abatement Control and Compliance	$1,552.0	$1,680.5	$1,657.3	$2,058.2	$400.9
TOTAL	$2,471.6	$2,409.1	$2,244.6	$2,798.3	$553.7
TOTAL:					
Salaries & Expenses	$919.6	$728.6	$587.3	$740.1	$152.8
Abatement Control and Compliance	$1,552.0	$1,680.5	$1,657.3	$2,058.2	$400.9
Office Of Cooperative Environmental Mangement TOTAL	$2,471.6	$2,409.1	$2,244.6	$2,798.3	$553.7
PERMANENT WORKYEARS					
Office Of Cooperative Environmental Management	11.8	16.0	16.0	16.0	0.0
TOTAL PERMANENT WORKYEARS	11.8	16.0	16.0	16.0	0.0
TOTAL WORKYEARS					
Office Of Cooperative Environmental Management	12.3	16.0	16.0	16.0	0.0
TOTAL WORKYEARS	12.3	16.0	16.0	16.0	0.0

Office of Cooperative Environmental Management

Budget Request

The Agency requests a total of $2,798,300 supported by 16.0 total workyears in 1991. This represents an increase of $553,800 and no change in total workyears from 1990. Of this request, $740,100 will be for the Salaries and Expenses appropriation and $2,058,200 will be for Abatement, Control, and Compliance appropriation. This represents an increase of $152,800 in the Salaries and Expenses and an increase of $400,900 in the Abatement, Control, and Compliance appropriation.

OFFICE OF COOPERATIVE ENVIRONMENTAL MANAGEMENT

1991 Program Request

The Agency requests a total of $2,798,300 supported by 16.0 total workyears for this program, of which $740,100 will be for the Salaries and Expenses appropriation and $2,058,200 will be for the Abatement, Control, and Compliance appropriation. This represents an increase of $152,800 in the Salaries and Expenses appropriation, an increase of $400,900 in the Abatement, Control, and Compliance appropriation, and no change in total workyears from 1990. The increase in Salaries and Expenses reflects increased personnel and support costs. The increase in the Abatement, Control, and Compliance appropriation will provide funds to support Senior Environmental Employees (SEE) personnel. This program will continue to develop a national program that identifies, documents, and disseminates selective exemplary environmental practices; establishes a national network of environmental technical experts; expands EPA's academic and vocational infrastructure through environmental management institutes; assures continued growth in the management of EPA's National Network for Environmental Management Studies (NNEMS); staffs the Administrator's National Advisory Council on Environmental Technology Transfer (NACETT) and its four committees, and oversees the response to those of its recommendations accepted by the Administrator; and identifies and promotes the development and use of needed new and innovative environmental technologies through appropriate cooperative efforts with organizations and institutions outside EPA and by identifying and initiating efforts to remedy administrative and other barriers to the development and use of needed new environmental technology. In addition, this program will seek and assess new and existing environmental technologies outside of the Agency for possible use by the Agency or by others and will do so with the assistance of experts in academia, and among technological leaders in business and industry, and in other Federal, State, and local agencies.

1990 Program

In 1990, the Agency is allocating a total of $2,244,600 supported by 16.0 total workyears for this program of which $587,300 is for the Salaries and Expenses appropriation and $1,657,300 is for the Abatement, Control and Compliance appropriation. The program is developing a national program to identify, document, and disseminate selected environmental "best practices" that

constitute model approaches worthy of replication; establishing a national network of environmental experts and communication focal points at the Federal and State levels of government; expanding EPA's academic and vocational infrastructure ties through the development of regionally based cooperative environmental management institutes; assuring continued growth in the management of EPA's National Network for Environmental Management Studies (NNEMS); and creating and staffing the Administrator's National Advisory Council for Environmental Technology Transfer (NACETT) to address issue areas of national concern. In cooperation with Program and Regional Offices, and state and local agencies, this program will identify and promote innovative environmental management and implementation strategies through ongoing program development activities and demonstrations. In cooperation with the Office of Research and Development (ORD), it will promote and support activities required by the Federal Technology Transfer Act of 1986 (FTTA) and President's Executive Order 12591 to accelerate the development and commercialization of needed new (environmental) technology. Finally, this program will manage the Administrator's National Small Community Regulatory Outreach program.

1989 Accomplishments

In 1989, the Agency obligated a total of $2,471,600 supported by 12.3 total workyears, of which $919,600 was from the Salaries and Expenses appropriation and $1,552,000 was from the Abatement, Control, and Compliance appropriation. During 1989, the following accomplishments were achieved: implemented within the Agency the Federal Technology Transfer Act of 1986 and Executive Order 12591; supported a wide array of new program-specific, Region-specific and Agency-wide initiatives to improve the implementation of EPA programs through improved information sharing within and outside the Agency; promoted and supported the development of university-led consortia to assess the efficacy of newly developed environmental technologies and promoted the commercialization of those technologies found to be needed and efficacious; developed and initiated a program to disseminate case studies of environmental best practices; and established a network of technology transfer focal points in each Headquarters and Regional Office and in each state.

MULTIMEDIA
Multimedia Training Grants

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
			(DOLLARS IN THOUSANDS)			
PROGRAM						
Multimedia Training Grants						
Abatement Control and Compliance		$768.1	$492.3	$486.0		-$486.0
	TOTAL	$768.1	$492.3	$486.0		-$486.0
TOTAL:						
Abatement Control and Compliance		$768.1	$492.3	$486.0		-$486.0
Interdisciplinary Training Grants	TOTAL	$768.1	$492.3	$486.0		-$486.0

MULTIMEDIA

Multimedia Training Grants

Budget Request

The Agency requests no resources for this activity in 1991. This represents a decrease of $486,000 in the Abatement, Control and Compliance appropriation from 1990.

MULTIMEDIA TRAINING GRANTS

1991 Program Request

The Agency requests no resources for this activity in 1991.

1990 Program

In 1990, the Agency is allocation $486,000 from the Abatement, Control and Compliance appropriation for this program to develop course materials for state/local technical staff training through community colleges.

1989 Accomplishments

In 1989, the Agency obligated $768,100 for this program which provided academic and professional training to State and local environmental personnel in the areas of pollution control and environmental engineering. The program also provided economic support, through fellowships and training grants, to minority students allowing them to receive academic training in the environmental field. Support was provided to community colleges to link secondary schools and post secondary institutions into a more rounded environmental career education program.

Enforcement

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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MULTIMEDIA
Enforcement Policy & Technical Support

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
PROGRAM						
Enforcement Policy & Operations Dumping Fund						
Salaries & Expenses		$15,320.4	$16,724.0	$16,948.0	$22,693.4	$5,745.4
Abatement Control and Compliance		$319.4	$1,501.6	$1,481.0	$2,117.0	$636.0
	TOTAL	$15,639.8	$18,225.6	$18,429.0	$24,810.4	$6,381.4
Criminal Investigation Program						
Salaries & Expenses		$2,591.9	$3,359.4	$3,264.8	$4,857.7	$1,592.9
	TOTAL	$2,591.9	$3,359.4	$3,264.8	$4,857.7	$1,592.9
Technical Support Office of Enforcement And Compliance Monitoring						
Salaries & Expenses		$3,189.3	$3,407.9	$3,319.8	$4,687.1	$1,367.3
Abatement Control and Compliance		$2,085.5	$1,554.0	$1,532.7	$2,566.5	$1,033.8
	TOTAL	$5,274.8	$4,961.9	$4,852.5	$7,253.6	$2,401.1
TOTAL:						
Salaries & Expenses		$21,101.6	$23,491.3	$23,532.6	$32,238.2	$8,705.6
Abatement Control and Compliance		$2,404.9	$3,055.6	$3,013.7	$4,683.5	$1,669.8
Enforcement Policy & Technical Support	TOTAL	$23,506.5	$26,546.9	$26,546.3	$36,921.7	$10,375.4
PERMANENT WORKYEARS						
Enforcement Policy & Operations Dumping Fund		275.7	335.8	310.2	395.6	85.4
Criminal Investigation Program		37.9	57.4	56.9	64.7	7.8
Technical Support Office of Enforcement And Compliance Monitoring		55.5	63.3	62.5	69.7	7.2
TOTAL PERMANENT WORKYEARS		369.1	456.5	429.6	530.0	100.4

MULTIMEDIA
Enforcement Policy & Technical Support

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
TOTAL WORKYEARS					
Enforcement Policy & Operations Dumping Fund	298.3	335.8	324.6	395.6	71.0
Criminal Investigation Program	38.1	57.4	56.9	64.7	7.8
Technical Support Office of Enforcement And Compliance Monitoring	58.6	63.3	62.5	69.7	7.2
TOTAL WORKYEARS	395.0	456.5	444.0	530.0	86.0

MULTI-MEDIA PROGRAMS

Enforcement Policy & Technical Support

Enforcement Actions	ACTUAL 1989	CURRENT ESTIMATE 1990	ESTIMATE 1991	INCREASE + DECREASE - 1990
Administrative Orders				
EPA	3,016	3,520	4,132	+612
States (Third Quarter Data)	3,033	*	*	*
New Judicial Referrals				
EPA Civil	203	214	273	+59
EPA Criminal	62	71	88	+17
State Civil (Third Quarter Data)	392	*	*	*
Civil Judicial Cases, Ongoing				
Cases Start of Year	620	630	710	+81
Cases Concluded	193	134	177	+43
Active Consent Decrees	588	*	*	*
Criminal Investigations				
New	118	130	149	+19
Start of Year	150	184	*	*
Defendants Charged	95	*	*	*
Contractor Listing				
Delisting and Discretionary Listings	31	63	73	+10
Permit Support				
RCRA	272	126	90	+36
NDPES	419	371	371	0
UIC	625	515	515	0
Penalties Assessed				
Administrative & Civil	$34,156,000	*	*	*
Criminal	$8,634,900	*	*	*

* Future year projections are not made for this data element.

ENFORCEMENT

Enforcement Policy and Technical Support

Budget Request

The Agency requests a total of $36,921,700 supported by 532.0 total workyears for 1991, an increase of $10,375,400 and 88.0 total workyears from 1990. Of the request, $32,238,200 will be for the Salaries and Expenses appropriation and $4,683,500 will be for the Abatement, Control and Compliance appropriation. This represents increases of $8,705,600 in the Salaries and Expenses appropriation and $1,669,800 in the Abatement, Control and Compliance appropriation. This represents an increase of 82.0 total workyears from the Salaries and Expenses appropriation, an increase of 4.0 total workyears from the Reregistration and Expected Processing Revolving Fund and 2.0 total workyears from the Ocean Dumping Fund.

ENFORCEMENT POLICY AND OPERATIONS

1991 Program Request

The Agency requests $24,810,400 supported by 397.6 total workyears for this program, of which $22,693,400 will be for the Salaries and Expenses appropriation and $2,117,000 will be for the Abatement, Control and Compliance appropriation. Total workyears will include 390.6 from the Salaries and Expenses appropriation, 5.0 from the Reregistration and Expedited Processing Revolving Fund, and 2.0 from the Ocean Dumping Fund. This represents an increase of: $5,745,400 for the Salaries and Expenses appropriation; $636,000 for the Abatement, Control and Compliance appropriation, 67.0 in Salaries and Expenses workyears, 4.0 in workyears from the Reregistration and Expedited Processing Revolving Fund, and 2.0 in workyears from the Ocean Dumping Revolving Fund. The increase in Salaries and Expenses appropriation reflects costs associated with the additional workyears requested and increased personnel and support costs. The increase in the Abatement, Control and Compliance appropriation reflects several initiatives related to improving enforcement actions, enhancing capacity building in the Regions and States, and initiatives for pollution prevention projects. The workyear increases are related to higher enforcement actions projected, timely follow through on enforcement actions begun in prior years, legal support to the enforcement provisions of the Administration's Clean Air Act (CAA) legislation, and improved RCRA enforcement.

The goal of this program is to respond to instances of non-compliance with environmental statutes with consistent, timely, and effective enforcement actions. Resources requested by Headquarters and the Regions reflect anticipated workload for projected administrative enforcement actions, new and ongoing civil and criminal judicial litigation and a number of enforcement initiatives related to improving the effectiveness of national environmental enforcement efforts. In 1991, 7.0 additional workyears at Headquarters will implement or expand approaches to improve the effectiveness of the legal enforcement program. These workyears will ensure the building of Regional and State capacity within an integrated framework for consistent and equitable enforcement. Development of training materials and management of training to cost-effectively reach a larger

audience will expand upon 1990 efforts. An increase of 1.5 workyears will focus on training in RCRA-specific case preparation techniques. Program efforts will emphasize enhancing Headquarter's role in working with Regions and states to better target and prosecute violators posing the greatest environmental risk. Two workyears will coordinate this effort.

A total of 3.5 additional workyears will ensure the enforceability of Agency regulations and enforcement guidance development, as well as case support for wetlands protection, drinking water and hazardous waste. Areas of emphasis for 1991 will include enforcement of sludge permits; failure to seek storm water permits; revisions to the pretreatment enforcement strategy, requirements for **Safe Drinking Water Act (SDWA)** Class V wells regarding high risk injection practices; enforcement of PCB disposal deadlines; the water toxics enforcement strategy; implementation of the National Wetlands Policy Forum recommendations; **Emergency Planning and Community Right-to-Know Act (EPCRA)** data quality requirements; and hazardous waste permit compliance. An additional 2.5 workyears is requested to develop policy and regulations to implement the Administration's **Clean Air Act Amendments**.

An increase in Abatement, Control and Compliance of $636,000 in 1991 will: 1) enhance **Resource Conservation and Recovery Act (RCRA)** enforcement training for emerging areas, land ban and corrective actions; 2) implement new enforcement provisions under **Federal Insecticide, Fungicide and Rodenticide Act (FIFRA 88)** will; 3) foster linkage of compliance reporting systems via a data integration effort; 4) establish a more efficient analytic capability and management focus for targeting inspection and enforcement resources; and 5) support pollution prevention initiatives. Support of $138,000 is related to new enforcement requirements under the **Clean Air Act Amendments**. These include targeting and data integration support.

The Regions will be responsible for initiating new enforcement actions based upon statutory, regulatory, and programmatic directives. Increased levels of administrative orders, civil judicial referrals and litigation will require substantially increased legal support. Regional legal resources will also respond to growth in the numbers of criminal investigations, referrals, and indictments expected to occur as a result of the expansion in the criminal investigation program.

Regional legal resources will also press vigorously for successful closure of cases active on the Agency's growing judicial docket, as well as careful oversight and follow-through on active consent decrees with conditions still not met. These needs coupled with a growing imperative to follow through on cases filed in prior years forms the basis of a request for 50 added workyears for Regional legal support in 1991.

An additional 8.5 workyears are requested based upon the Administration's proposed **Clean Air Act** to begin implementing strengthened enforcement provisions in Title VI of the Act. Establishment of a permit program, expanded administrative penalty provisions, new compliance certification requirements, and the statutory presumption of continuous violation will significantly alter the CAA enforcement program and will require added Regional legal workyears.

Pollution prevention initiatives for 1991 will focus on two areas. First, the use of environmental auditing among local governments will be expanded. EPA will assist local governments in establishing audit programs, document successful techniques and organizational approaches, conduct multimedia information exchange on a cross-governmental basis, and analyze unique compliance problems of municipalities in this area. Second, EPA will build upon enforcement settlements by promoting the use of pollution prevention requirements as part of a violator's ameliorative efforts. A policy to include pollution prevention requirements in enforcement settlements will help reduce or eliminate root causes of noncompliance by committing the violator (via enforceable agreements) to undertake appropriate source reduction or recycling activities. This policy will be implemented in 1991 after a pilot testing of the draft policy in 1990. The pilot testing will analyze the effectiveness of this approach as an enforcement tool.

In 1991, Headquarters and Regional legal resources will have primary responsibility for implementation of enforcement activities resulting from reregistration requirements of FIFRA 88 legislation. Not only will the volume of pesticides administrative actions increase, but the new regulations will increase the scope of enforcement actions to areas not previously regulated. These include regulations governing container design and handling procedures, as well as transportation, storage and disposal of pesticides.

In 1991, Regional Counsel staff will also provide legal support to follow-up enforcement actions begun in 1990 related to Ocean Dumping legislation.

1990 Program

In 1990, the Agency is allocating a total of $18,429,000 supported by 323.6 total workyears for this program, of which $16,948,000 is from the Salaries and Expenses appropriation, and $1,481,000 is from the Abatement, Control and Compliance appropriation. Total workyears include 323.6 from the Salaries and Expenses appropriation, and 1.0 workyear from the Reregistration and Expedited Processing Revolving Fund.

The 1990 enforcement program is characterized by a continued aggressive enforcement presence. Legal enforcement support will address critical and emerging areas which include by statute the following:

- **Clean Air Act (CAA):** Enforcement of National Emissions Standards for Hazardous Air Pollutants (NESHAPs) for volatile organic compounds, enforcement against sources of pollution in ozone non-attainment areas, and enforcement of PM_{10} standard and sulfur dioxide continuous emission monitoring requirements.

- **The Clean Water Act (CWA) and Safe Drinking Water Act (SDWA):** Enforcement of requirements on wetlands protection, protection of near coastal waters, pretreatment requirements for publicly owned treatment works (POTWs), enforcement of coliform requirements and other maximum contaminant levels (including lead) applicable to public water systems, control of high risk injection practices in injection wells affecting groundwater, and implementation of new citizen suit provisions.

- **Ocean Dumping Ban and Shore Protection Act:** Enforcement of revised dumping requirements and phase out plans.

- **RCRA:** Land ban violations, storage and treatment violations, and corrective action violations.

- **Emergency Preparedness and Community Right-to-Know Act (EPCRA):** Enforcement against facilities that fail to report emergency releases or fail to submit an accurate annual Toxics Release Inventory to their community or EPA.

- **TSCA/FIFRA:** PCB disposal, Premanufacture Notices, compliance with the Asbestos Hazard Emergency Response Act (AHERA), farmworker protection requirements regarding pesticide use, pesticide suspension/reregistration/cancellation.

Headquarters legal support is working to enhance enforcement effectiveness. This is being done by: developing review procedures for administrative enforcement appeals; enhancing EPA's enforcement communications strategies; developing new approaches to using administrative enforcement; managing a litigation support fund for use in complex administrative and judicial cases with extraordinary expenses; and integrating Agency compliance data systems. The expansion of the direct referral policy for civil litigation has permitted a resource shift to improve capacity-building and innovation, as well as allowing more consistent and thorough participation in cases and settlements requiring Headquarters involvement.

The contractor listing function is emerging as an extremely effective tool for achieving compliance. In addition, the number of criminal convictions has grown, resulting in an increasing number of contractors who must be listed as ineligible for receipt of government contracts. The listing program has proven especially effective in promoting the cooperation of firms, encouraging them to take positive steps to comply with environmental laws and thereby gain removal from the list via a delisting procedure.

In 1990, Regional legal resources are being devoted to administrative, civil, and criminal enforcement actions in support of program enforcement priorities in all media. Levels of effort include continuing work on enforcement initiatives of prior years, including **CWA** National Municipal Policy cases, **RCRA** loss-of-interim status and land ban cases, **TSCA** (PCB retirement and asbestos) cases, and **CAA** cases related to the Ozone, Chloroflourocarbon (CFC) Enforcement, and Benzene NESHAP Enforcement strategies. In addition, aggressive enforcement using administrative tools with penalty provisions (including CWA, SDWA, EPCRA) has increased the impact as well as the timeliness of enforcement actions and lessened the benefit to the violator of failure to comply with environmental laws. At the start of 1990, nearly 500 consent decrees were in place and being monitored to ensure compliance with their provisions.

In 1990 Regional Counsel will provide legal enforcement support to enforcement actions taken as a result of violations of enforcement/compliance agreements by cities or counties which have ocean dumping permits.

Enforcement settlements in 1990, both civil and administrative, are continuing the effort begun in 1989 to include pollution prevention provisions.

To the extent that facilities can be encouraged to alter manufacturing or recycling practices to avoid waste creation through provisions of a settlement order or decree, the Agency is attempting to capitalize on those opportunities.

Headquarters legal staff will be directly involved in the writing of regulations for FIFRA's new reregistration requirements, developing response policies, and supporting regional staff in initial enforcement actions.

1989 Accomplishments

In 1989, the Agency obligated a total of $15,639,800 supported by 298.1 workyears for this program, of which $15,320,400 was from the Salaries and Expenses appropriation and $319,400 was from the Abatement, Control and Compliance appropriation. Total workyears included 298.1 from the Salaries and Expenses Appropriation and 0.2 from the Reregistration and Expedited Processing Revolving Fund.

Enforcement and compliance monitoring in 1989 continued the aggressive enforcement program initiated in 1988. The use of a broad spectrum of enforcement tools sent a clear message to the regulated community regarding the Agency's renewed commitment to enforcing compliance. EPA, in partnership with the States, referred to the Department of Justice (DOJ) for prosecution over 210 civil judicial cases addressing violations of environmental laws. In addition, EPA's criminal enforcement program referred 60 criminal cases to DOJ in 1989. Both the number of criminal cases successfully prosecuted and the number of defendants convicted exceeded 1988 levels. The impact of these judicial actions was augmented by the highest level of administrative enforcement actions in the history of the Agency. During 1989, active judicial consent orders which were in place and being monitored to ensure compliance with their provisions grew to nearly 500. Where non-compliance with the terms and conditions of a consent decree was found, the Agency initiated contempt proceedings with the court to compel compliance. EPA initiated 16 such contempt actions in 1989.

Preliminary statistics indicate that civil judicial and administrative penalty assessments for 1989 may exceed the record levels achieved in 1988. Criminal penalties assessed prior to suspension totaled $8,634,900.

1989 saw an increase in legal support activities provided by Headquarters. These activities included involvement in selected judicial actions with precedent potential, development of legal policy guidance and case management for the criminal investigations program, development and implementation of enforcement strategies and initiatives, continued work on contractor listing and desisting actions, improvements to both inspector development and attorney training efforts, and operation of the Strategic Planning and Management System for Agency enforcement. Particular emphasis was placed on development of cross-media consolidated rules for administrative penalty proceedings not subject to the Administrative Procedures Act (APA). Specific accomplishments include the following:

- A Memorandum of Agreement (MOA) with the Army Corps of Engineers was signed in 1989 which set guidelines for enforcement actions taken to protect wetlands.

- Administrative enforcement actions were taken against companies that failed to provide information (or provided inaccurate data) for the Toxics Release Inventory required under the **Emergency Preparedness and Community Right-to-Know Act (EPCRA)**. Cases of First Impression were pursued by Headquarters attorneys to signal the regulated community that EPA intends to follow through forcefully on this legislation intended to provide information to the public on toxic releases in their communities. Two enforcement initiatives under EPCRA Section 313 resulted in the filing of 113 administrative actions in the first year of the program.

- Implementation of an enforceable regulatory framework for the **Medical Waste Tracking Act** enacted in November 1988 was also completed.

- Under the **Resource Conservation and Recovery Act (RCRA)** key legal precedents regarding owner/operator liability for regulatory compliance, corrective action requirements, and civil penalties in both judicial and administrative litigation were established.

- Enforcement strategies and regulations for **AHERA**, including the development of model pleadings and settlement documents.

Regional legal resources were directed to the generation of administrative enforcement actions and civil referrals most likely to return significant violators to compliance, maintaining a credible enforcement presence, resolution of ongoing judicial cases, legal support to the criminal investigation program, and follow through on consent decrees to determine compliance. Legal resources were also targeted to consultation with media counterparts early in the compliance monitoring and enforcement process, resulting in the generation of high numbers of enforcement actions with major compliance payoffs.

- In the Air program, strong enforcement of the Asbestos Demolition and Renovation regulations sent a message to the demolition and renovation contracting industry regarding EPA's commitment to protecting the public from preventable exposure to asbestos. Air attorneys also completed negotiations on a significant consent decree which required the installation of $9 million worth of equipment to control and continuously monitor sulfur dioxide emissions. Court rulings on violations of the asbestos NESHAP regarding company liability provided precedents which strengthened the enforcement climate.

- Effective use was made of administrative penalty provisions under the **Clean Water** and **Safe Drinking Water** Acts. Using these relatively new tools enforcement levels increased significantly over prior year levels.

- In the RCRA program, cases involving loss-of-interim-status filed in prior years were actively pursued. In addition, RCRA enforcement cases were initiated addressing new land disposal restrictions and broaden corrective action requirements.

In addition, Headquarters attorneys helped develop the Administration's **Clean Air Act Amendments** currently before the Congress. The proposed legislation

would strengthen many CAA enforcement provisions including penalty authorities for violations and a potential for felony actions against criminal violators.

CRIMINAL INVESTIGATIONS PROGRAM

1991 Program Request

The Agency requests a total of $4,857,700 supported by 64.7 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $1,592,900 and 7.8 total workyears from 1990. The increase will provide additional criminal investigators and support staff to strengthen environmental enforcement as well as the manpower to enforce the criminal provisions of the reauthorized Clean Air Act.

The objective of this program is to act as a forceful deterrent to violations of environmental laws by providing clear evidence to the regulated community that willful statutory violations will be met with harsh sanctions in terms of both fines and jail sentences.

Criminal investigations and enforcement constitute a highly visible force in the Agency's enforcement strategy and occupy an important place on the continuum of legal enforcement alternatives. Program priorities are based upon Agency guidance, the compliance strategy of the Assistant Administrator for Enforcement and Compliance Monitoring, and the individual media program compliance and enforcement strategies.

The Office of Criminal Investigations' (OCI) close cooperation with state environmental crimes units and other Federal law enforcement agencies effectively multiplies the visibility and deterrence of criminal enforcement in the environmental protection arena. The criminal investigations staff performs the following major functions:

- Screens all leads and develops significant leads into cases;
- Refers appropriate leads to other law enforcement agencies, and pursues joint investigations when circumstances warrant;
- Pursues significant investigations and develops referral material for grand jury action;
- Provides technical ~~support~~ and information for Grand Jury decisions and throughout the trial or pleading process.

Increases in 1991 are needed for several reasons:

- The nature of the program has changed over the past year, and it is continuing to change. As enabling legislation is reauthorized, Congress provides more options for criminal prosecution in addition to those which exist for civil prosecution. Misdemeanors have become felonies, potential fines have been increased, and maximum jail sentences have been lengthened.
- The emerging trend toward investigations of larger facilities and major incidents requires special agents from more than one region

to provide adequate manpower. Two recent examples are the Marine Shale and Rocky Flats investigations.

- Deterring polluters contributes to pollution prevention, and the deterrent value of the Criminal Investigations Program is immeasurable. The publicity generated by such cases as Rocky Flats or Aberdeen Proving Ground creates a ripple effect of voluntary compliance. Facility operators are beginning to realize they can go to jail if they pollute illegally. No longer can corporations simply write off fines as a "cost of doing business".

- The Criminal Program produces net revenue for the Federal government. Although the primary objectives of the program are to deter potential polluters and to catch violators, more money is collected from fines each year than is appropriated for the program.

- An effective Criminal Investigations Program requires unique expense costs for undercover operations, purchase of information or evidence, support vehicles, and specialized equipment such as night scopes and monitoring devices to fully realize the return on the investment in the program.

1990 Program

In 1990, the Agency is allocating a total of $3,264,800 supported by 56.9 total workyears for this program, all of which is from the Salaries and Expenses appropriation.

The Agency is emphasizing in 1990:

- rigorous criminal investigations, particularly with respect to potential or documented willful violations of the Resource Conservation and Recovery Act (RCRA), the air toxic strategy, toxics in all media, and municipal and pretreatment compliance;

- improved case management through more efficient use of investigative resources and greater accessibility of criminal investigators to Regions and Assistant U.S. Attorneys (AUSA);

- closer cooperation with other Federal, state, and local officials;

- greater access to appropriate automated databases; and

- improved technical investigation and evidence audit support. Priority is given to investigations, cases, and remedial actions having the highest potential for avoiding environmental harm and protecting public health.

1989 Accomplishments

In 1989, the Agency obligated a total of $2,591,900 supported by 38.1 total workyears for this program, all of which was from the Salaries and Expenses appropriation.

In 1989, emphasis was placed on rigorous criminal investigations of potential or documented willful violations of RCRA, toxics in all media, and Federal municipal and pretreatment compliance. The National Enforcement Investigations Center (NEIC) continued to provide criminal case development in nationally managed or precedent-setting cases, cases with unique technological requirements and complexity, and cases with multi-Regional or multi-state impacts. The program priorities and proposed resource allocations were based upon Agency guidance, the compliance strategy of the Assistant Administrator for Enforcement and Compliance Monitoring, the individual program strategies including strategies for compliance monitoring, and the individual case development priorities of the Regional Counsels.

TECHNICAL SUPPORT

1991 Program Request

The Agency requests a total of $7,253,600 supported by 69.7 total workyears for this program, of which $4,687,100 will be for the Salaries and Expenses appropriation and $2,566,500 will be for the Abatement, Control and Compliance appropriation. This represents increases of $1,367,300 and $1,033,800, respectively, and an increase of 7.2 total workyears from 1990.

The increase for Salaries and Expenses reflects the higher personnel, capital equipment and operating costs associated with supporting a growing civil and criminal enforcement caseload, as well as the Agency's emphasis on strengthening enforcement.

The increase in the Abatement, Control and Compliance appropriation will provide for several air program initiatives, including:

- the development of corporate compliance histories and targeting of potential non-compliers through the collection and analysis of facility compliance and ambient information;
- development of Geographical Information System (GIS) capabilities; and
- analysis of Toxic Release Inventory System (TRIS) data for identification of air toxic emitters.

The workyear increase reflects greater technical support of criminal investigators, workload based on the proposed reauthorization of the Clean Air Act, and the additional demand anticipated from the Agency's enforcement initiative.

In 1991, the National Enforcement Investigations Center (NEIC) will continue to provide high quality technical support to the Agency's enforcement program. Support provided by the NEIC includes data reviews, reconnaissance inspections, field investigations, laboratory analyses, evidence audit support, report preparation, and supplemental technical information development. NEIC employees will also provide expert technical testimony and expertise in negotiating the technical aspects of consent decrees.

The NEIC will continue to help the Agency build state capacity. State, local, and other Federal enforcement agencies will have access to the commercial databases necessary for thorough investigations and audits. The NEIC will also fund grants to four state enforcement associations.

NEIC cases in 1991 will emphasize large and technically complex facilities identified by targeting techniques, where the potential for environmental benefit is the greatest. Cases will encourage environmental auditing, multi-media and corporate-wide compliance, use of waste minimization and pollution prevention concepts, as well as traditional control measures. Over time the facilities investigated have become larger, and have more often been permitted under more than one environmental statute. Obtaining and verifying the evidence necessary to convict polluters under these conditions requires increased sophistication and thoroughness.

The NEIC will also continue to operate a national information service, providing information to the environmental enforcement community on both civil and criminal case matters. This service provides access to the information systems and databases necessary for enforcement case preparation and the development of initiatives commensurate with Agency enforcement policies and practices.

1990 Program

In 1990, the Agency is allocating a total of $4,852,500 supported by 62.5 total workyears for this program, of which $3,319,800 is from the Salaries and Expenses appropriation and $1,532,700 is from the Abatement, Control and Compliance appropriation.

NEIC continues to support Headquarters and Regional offices in developing enforcement cases that may set a precedent, involve violations of the criminal, civil, and administrative provisions of environmental laws, have multi-regional impacts, require the innovative application of engineering and scientific technology to resolve complex pollution issues, or exceed a Region's capabilities and resources. NEIC plans, develops and provides field and laboratory assistance, information, and data analysis for civil and criminal case preparations involving:

- generation, transport and disposal of toxic and hazardous waste regulated by the **Resource Conservation and Recovery Act (RCRA)** and the **Toxic Substances Control Act (TSCA)**;

- compliance requirements under the **Clean Water Act (CWA)**;

- standards for the control of hazardous emissions and other air pollutant emissions from sources regulated by the **Clean Air Act (CAA)**;

- new regulatory requirements under the **Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)**;

- identification of threatened or contaminated groundwater supplies under the **Safe Drinking Water Act (SDWA)**; and

- regulatory requirements of other environmental legislation, statutes and Executive Orders.

1989 Accomplishments

In 1989, the Agency obligated a total of $5,274,800 supported by 58.6 total workyears for this program, of which $3,189,300 was from the Salaries and Expenses appropriations and $2,085,500 was from the Abatement, Control and Compliance appropriation.

In 1989, the NEIC emphasized achieving the best return on the taxpayer's investment. Information integration and enforcement targeting have enabled the NEIC to identify facilities where the potential for environmental results was the greatest. These techniques typically led to large facilities where a multi-media investigation could address compliance with a total environmental approach.

The NEIC has been involved in a number of significant enforcement cases and has pioneered enforcement tools in both the criminal and civil programs. Especially noteworthy accomplishments are:

- multi-media inspections of large facilities;
- NEIC's emerging role as the focal point for laboratory analytical assistance to the criminal program;
- development of information integration and related targeting capability;
- major Federal facilities compliance investigations;
- training of state and local environmental criminal investigators through the Federal Law Enforcement Training Center;
- expansion of state association membership and new state criminal enforcement programs;
- review of proposed regulations to ensure enforceability; and
- implementation of key new provisions and authorities included in reauthorized or amended statutes.

9. Toxic Substances

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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TOXIC SUBSTANCES

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
APPROPRIATION					
Salaries & Expenses	$46,233.8	$48,192.6	$47,345.2	$51,129.4	$3,784.2
Abatement Control and Compliance	$80,132.1	$93,993.5	$92,748.5	$46,027.7	-$46,720.8
Research & Development	$16,754.1	$16,182.5	$15,769.1	$16,281.9	$512.8
TOTAL, Toxic Substances	$143,120.0	$158,368.6	$155,862.8	$113,439.0	-$42,423.8
PERMANENT WORKYEARS	816.9	906.6	865.4	886.2	20.8
TOTAL WORKYEARS	863.0	906.6	876.1	886.2	10.1
OUTLAYS	$143,200.2	$140,097.6	$139,462.9	$104,527.4	-$34,935.5
AUTHORIZATION LEVELS	Authorization for the Toxic Substances Control Act expired on September 30, 1983. Reauthorization is pending.				

TOXIC SUBSTANCES

OVERVIEW AND STRATEGY

The Toxic Substances media covers programs implemented under four environmental statutes, all of which focus on control of toxic chemical use. The Toxic Substances Control Act (TSCA) provides the authority and responsibility to protect human health and the environment from unreasonable risks arising from the manufacture, distribution, use, or disposal of existing and new chemicals. The Asbestos School Hazard Abatement Act (ASHAA) directs the Environmental Protection Agency (EPA) to assist states and local educational agencies (LEAs) in determining the extent of risks from exposure to asbestos-containing materials. The Asbestos Hazard Emergency Response Act (AHERA) imposes inspection and abatement requirements on all public and private elementary and secondary schools, and requires EPA to examine the issue of asbestos in public and commercial buildings. Finally, section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) requires EPA to establish an inventory of toxic chemical emissions from certain facilities as part of a broader emergency planning and community right-to-know program.

To carry out its mandates, EPA will implement the following major goals in FY 1991: 1) prevent or eliminate unreasonable risk from new or existing chemicals; 2) reduce unnecessary exposure through voluntary reduction of toxic emissions; 3) encourage the development of safer substitutes for high and medium risk chemicals; and 4) maximize program productivity through improved management and through the strengthening of state and local programs. In addition, two important cross-cutting goals are to ensure strong toxic substances enforcement and adequate research and development support.

Prevent or Eliminate Unreasonable Risk

The New Chemical Review Program contributes to EPA's pollution prevention efforts by preventing chemicals with the potential to pose unreasonable risks to human health or the environment from entering unrestricted into commerce. It is anticipated that approximately 3,000 new chemical submissions will be received in FY 1991, a 20 percent increase over FY 1990. The number of biotechnology notices is expected to double from 20 to 40, reflecting a continually growing market for genetically engineered microorganisms. EPA's General Biotechnology Rule and the section 5(h)(4) exemption rule for controlled and closed systems will be fully implemented by the end of FY 1991. The Agency continues to implement improved and more efficient ways for the new chemical program to perform its role, including the use of advanced technology to reduce costs for storage and retrieval of the hundreds of thousands of documents received each year. Savings from these reforms will help offset part of the increased program cost generated by the biotechnology effort.

The Existing Chemical Review Program aims to identify chemicals that pose potential risks to public health or the environment, characterize their risks, and, if unreasonable risks are found, take appropriate action. This program carries out its review function on hundreds of existing chemicals annually in

order to identify those that pose unreasonable risks by pursuing a multi-faceted strategy:

- New data on chemicals are screened to identify possible problems;
- Data in the possession of industry on manufacturing and use of chemicals are requested on chemicals of concern;
- Industry is required to conduct studies and to do hazard testing to fill important data gaps on chemicals of concern;
- Annual data on emissions and discharges of toxic chemicals are collected and made available to the public and other environmental programs at the Federal, state, and local levels;
- Risk assessments are conducted on suspect chemicals to estimate the level of risk to human health and the environment;
- Risk management analyses are conducted on substances that pose significant risk to determine whether the risks are unreasonable and whether risk management controls should be imposed.

The Existing Chemical Review Program will focus on chemicals with the maximum potential for reducing risks through governmental intervention, and those which cannot be controlled effectively by other Federal regulatory programs. The program will continue to place special emphasis on controlling risks associated with asbestos and polychlorinated biphenyls (PCBs).

In FY 1991, the Chemical Testing Program (CTP) will focus on developing data to meet EPA's regulatory needs through greater use of multi-chemical testing rules. Issuance of these rules represents a major addition to traditional chemical-by-chemical rulemaking. As a result of modifications to Office of Toxic Substances (OTS) procedures for developing testing consent orders and a more streamlined rulemaking process, it will be possible for OTS to order chemical testing more efficiently. The CTP will continue to meet EPA's statutory obligations to respond to chemical candidates selected by the Interagency Testing Committee (ITC). There will be a continued effort to review test data and respond to test rule modifications. Concurrent with the efforts to strengthen the EPA testing program are major efforts internationally to seek greater cooperation in generating chemical testing data. The United States, through EPA participation in international meetings, has served as a leader in achieving this international cooperation. EPA will continue in this role in FY 1991.

Reduce Unnecessary Exposure, Especially by Preventing Pollution

EPA is actively encouraging voluntary reductions of emissions and exposure if there appears to be a high potential for significant risk, even before risk assessments and/or risk management analyses have been conducted. An important facet of this effort is the voluntary reduction that is already occurring as a result of the Emergency Planning and Community Right-to-Know Act (EPCRA). The

EPCRA Toxic Release Inventory (TRI) program collects and makes available to the public annual data on emissions and discharges of toxic substances. With the experience of the third reporting cycle completed, in 1991 we can look toward both improved data quality and a significantly shortened processing time. Experience and program improvements in FY 1991 should also provide improved accessibility and usability of the TRI database to aid EPA staff, the states, and the public in making decisions directed toward risk reduction and pollution prevention. EPA will continue to offer "start up" grants to states to encourage and help them to address data quality and to integrate the TRI data into their other programs.

Other programs to reduce unnecessary exposure and prevent pollution include the establishment of university centers for training and technical assistance in pollution prevention and the continuation of a major effort begun in 1990 to reduce exposure to lead.

One of our primary goals in managing asbestos and PCBs has been to eliminate unnecessary exposure. To ensure that the removal of PCBs and asbestos from continued use does not result in an actual increase in public health risk because of improper handling, the Agency is establishing in FY 1990 a Regional Toxics program to complement the existing toxic substances compliance program. This new program will work with the states to help them become more active in program operations for the Asbestos-in-Buildings and PCB programs. This effort will expand in 1991 to build a coordinated Federal/state program in these two areas.

In 1991 the Asbestos-in-Buildings program will continue to implement the key recommendations made in the 1988 Report to Congress on asbestos in public and commercial buildings, including studies to develop improved data on exposure to asbestos in public and commercial buildings and to evaluate various mitigation methods.

Encourage the Development of Safer Substitutes

Because more stringent risk management actions could be taken for many risky chemicals if safer substitutes were more readily available, the toxic substances program will implement a project to encourage industry to develop safer substitutes for existing chemicals of high and medium risk. Under this new project, the toxic substances program (calling on elements of both the new and existing chemical programs) will identify chemicals, chemical families, or product use areas for which the development and marketing of safer alternatives is needed. EPA will publish these findings as a part of its information gathering effort for existing chemicals. This should stimulate market forces to generate many needed substitutes.

Maximize Program Productivity

During FY 1989, major management reforms were initiated at headquarters in four separate areas to increase productivity (existing chemicals, new chemicals, chemical testing, and budgeting and planning). These reforms will be fully operational by the beginning of FY 1991, resulting in more efficient use of program resources. Examples of reforms in the existing chemicals area include an effort in the asbestos in buildings program to increase productivity by stimulating the development of stronger state, local, or private programs. The productivity of the PCB program will be improved by continuing to shift the Federal PCB focus from management of use to management of disposal. The Federal approach to PCBs will also be adjusted to provide a broader role for states in disposal and management of clean-up operations.

Ensure Strong Toxic Substances Enforcement

The Agency's toxic substances enforcement program is geared toward maintaining an efficient and effective national compliance monitoring program with appropriate coverage of all enforceable TSCA regulations. The enforcement program depends increasingly upon the assistance of state agencies which conduct compliance monitoring inspections under the terms of cooperative enforcement agreements. Thirty states currently participate in the TSCA cooperative agreement program and this number is expected to grow by 7 states in 1991. State programs emphasize compliance monitoring of existing chemical control rules, particularly for asbestos and PCBs. The states cannot initiate TSCA enforcement actions without meeting certain strict criteria of equivalency provided for in the law. Therefore, the Agency is responsible for case development and prosecution for all detected violations, whether originating from state- or EPA-conducted inspections. EPA intends to place additional emphasis on assisting states to enact appropriate authorities.

The enforcement program is placing a growing emphasis on conducting a comprehensive compliance program for asbestos and PCBs, including more frequent and comprehensive inspections at PCB disposal sites, and targeting inspections at brokers, storers and transporters of such materials.

The enforcement program also supports the enforcement provisions of the EPCRA Toxics Release Inventory (TRI). EPA's inspection program ensures that manufacturers, processors, and users of subject chemicals comply with Section 313 requirements to submit annual toxic chemical release forms. As the TRI program matures, additional emphasis will be placed on data quality compliance.

Ensure Strong Research and Development Support

The Office of Research and Development (ORD) will continue to support the Office of Toxic Substances (OTS) in 1991 by performing research in the areas of test method development and validation; biomarkers, dosimetry and extrapolation; exposure monitoring; environmental engineering and technology; special human data needs; structure activity relationships (SAR); ecology (both fate and transport and risk assessment); and biotechnology. In addition, ORD will

continue to provide technical support to OTS in exposure assessment and monitoring procedures and risk assessment methodologies for oncogenicity, mutagenicity and reproductive toxicity. Research will be performed in the areas of lead pollution prevention and increased health and environmental effects work in biotechnology.

Consulting Services

Consulting services are used on an intermittent basis to supplement technical expertise needed in the asbestos program.

TOXIC SUBSTANCES

	Actual 1989	Current Estimate 1990	Estimate 1991	Increase+ Decrease- 1991 vs. 1990
PROGRAM ACTIVITIES				
Incremental Outputs				
Existing Chemical Review				
Section 8(e), FYI's Received	454	600*	600*	--
Section 8 Reports	1,152	1,320	1,500	+180
Section 8 and 5(a) Rules.....	16	11	10	-1
Preliminary Risk Assessments	4	10	12	+ 2
Detailed Risk Assessments....	2	3	5	+2
List 2 Inerts Screened.....	18	50	0	-50
PCB Disposal Permits.....	6	12	11	-1
Option Selections.....	1	3	4	+1
Rulemakings.....	1	3	6	+3
Section 9 Referrals.....	1	1	1	--
PCB Exemptions	0	10	10	--
Asbestos Ban Exemptions.....	0	15	15	--
New Chemical Review				
Rulemakings.....	1	2	3	+1
New Chemical Submissions.....	1,493	2,750	3,000	+250
New Chemical Control Actions	154	360	450	90
Biotechnology Notices.....	6	20	40	+20
Biotechnology Control Actions	12**	10	20	+10
New Chemical SNURS.....	3	185	185	--
Receipt of Test Data.....	61	40	45	+5
Bona Fide Submissions.....	467	500	600	+100
Commencement Notices.....	1,114	1,250	1,300	+50
Chemical Testing				
ITC Testing Actions.....	14	6	6	--
Non-ITC Testing Actions.....	0	8	10	+2
Test Guidelines.....	1	2	2	--
Test Standard Modifications..	49	75	75	--
Interim Test Program Reviews	2	2	2	--
Final Test Program Reviews	3	3	4	+1

*1990 and 1991 projections may be seriously understated if newly implemented compliance follow-up efforts result in high volume of 8(e) submissions.

**Includes actions occurring in 1989 on prior year submissions.

	Actual 1989	Current Estimate 1990	Estimate 1991	Increase+ Decrease- 1991 vs. 1990
PROGRAM ACTIVITIES				
Incremental Outputs				
Title III				
TRI Forms Received.....	87,000	110,000	130,000	+20,000
TRI Forms Processed.....	91,000	95,000	98,000	+3,000
Notices of Noncompliance....	3,000	10,000	10,000	--
Receipt of Corrected Forms..	25,000	30,000	30,000	--
Petitions Received.....	10	10	10	--
On-Site Technical Audits....	200	100	100	--
Suspect Tech. Data Review...	1,000	1,000	1,000	--
Rulemakings.....	0	3	2	-1
Asbestos-in-Schools Loans and Grants				
Abatement Projects Funded...	401	400	--	--
Weekly Exposure Hrs. Reduced.	4,000,000	4,000,000	--	--
Asbestos-in-Buildings*				
Abatement Projects Closed Out	370	500	500	--
State Programs Developed....	11	11	16	+5
Enforcement Actions				
EPCRA Inspections.....	768	669	700	+31
Laboratory Inspections.....	10	13	13	---
Test Study Audits.....	47	72	72	---
Inspections, Sec. 5.....	249	129	129	---
Inspections, Sec. 6				
PCB Inspections**.....	2,456	2,440	3,000	+560
Asbestos Inspections**.....	1,548	1,473	3,000	+1,527
Hexavalent Chromium.....	---	---	100	+100
Inspections, Sec. 8.....	258	120	120	--

*1989 outputs were accomplished under Asbestos-in-Schools Program Administration and Contractor Certification programs, which are merged in 1990 into the Asbestos-in-Buildings program.

**Includes Federal, state and contractor inspections

Research and Development

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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TOXIC SUBSTANCES
Toxic Substances Research

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Scientific Assessment - Toxic Substances					
Salaries & Expenses	$123.1	$120.2	$118.7	$272.0	$153.3
Research & Development	$3.6	$54.7	$53.5	$155.0	$101.5
TOTAL	$126.7	$174.9	$172.2	$427.0	$254.8
Monitoring Systems & Quality Assurance - Toxic Substances					
Salaries & Expenses	$1,446.0	$1,531.0	$1,510.4	$1,705.0	$194.6
Research & Development	$3,473.3	$3,761.2	$3,707.2	$3,806.5	$99.3
TOTAL	$4,919.3	$5,292.2	$5,217.6	$5,511.5	$293.9
Health Effects - Toxic Substances					
Salaries & Expenses	$3,502.2	$3,471.0	$3,423.6	$3,925.0	$501.4
Research & Development	$7,304.0	$5,421.0	$5,266.7	$5,484.7	$218.0
TOTAL	$10,806.2	$8,892.0	$8,690.3	$9,409.7	$719.4
Environmental Engineering & Technology - Toxic Substances					
Salaries & Expenses	$629.6	$627.1	$649.8	$693.0	$43.2
Research & Development	$1,641.2	$1,982.3	$1,923.4	$2,375.7	$452.3
TOTAL	$2,270.8	$2,609.4	$2,573.2	$3,068.7	$495.5
Environmental Processes & Effects - Toxic Substances					
Salaries & Expenses	$5,515.0	$5,345.3	$5,273.3	$5,729.3	$456.0
Research & Development	$4,332.0	$4,963.3	$4,818.3	$4,460.0	-$358.3
TOTAL	$9,847.0	$10,308.6	$10,091.6	$10,189.3	$97.7
TOTAL:					
Salaries & Expenses	$11,215.9	$11,094.6	$10,975.8	$12,324.3	$1,348.5
Research & Development	$16,754.1	$16,182.5	$15,769.1	$16,281.9	$512.8
Toxic Substances Research TOTAL	$27,970.0	$27,277.1	$26,744.9	$28,606.2	$1,861.3
PERMANENT WORKYEARS					
Scientific Assessment - Toxic Substances	1.8	2.0	2.0	2.0	0.0
Monitoring Systems & Quality Assurance - Toxic Substances	22.3	25.0	25.0	25.0	0.0
Health Effects - Toxic Substances	59.6	62.4	62.4	62.4	0.0

TOXIC SUBSTANCES
Toxic Substances Research

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
Environmental Engineering & Technology - Toxic Substances	10.4	11.0	10.6	10.6	0.0
Environmental Processes & Effects - Toxic Substances	77.3	85.5	85.5	85.5	0.0
TOTAL PERMANENT WORKYEARS	171.4	185.9	185.5	185.5	0.0
TOTAL WORKYEARS					
Scientific Assessment - Toxic Substances	1.8	2.0	2.0	2.0	0.0
Monitoring Systems & Quality Assurance - Toxic Substances	23.5	25.0	25.0	25.0	0.0
Health Effects - Toxic Substances	62.5	62.4	62.4	62.4	0.0
Environmental Engineering & Technology - Toxic Substances	10.4	11.0	10.6	10.6	0.0
Environmental Processes & Effects - Toxic Substances	83.6	85.5	85.5	85.5	0.0
TOTAL WORKYEARS	181.8	185.9	185.5	185.5	0.0

TOXIC SUBSTANCES

Toxic Substances Research

Principal Outputs by Objective

Objective 1: Develop and Validate Test Methods in Support of TSCA Studies

1991: o Evaluate the effects of maternal deprivation on postnatal maturation (Health).

o Report on infared database for analysis of toxic organics (Monitoring).

1990: o Report on chemometric research (Monitoring).

o Report on determining dose for small aquarium fish used in chronic bioassays (Environmental Processes).

Objective 2: Perform Research on Biological Markers, Dosimetry and Extrapolation

1991: o Development of methods to structurally identify and quantitate specific environmental chemicals to DNA adducts (Health).

o Evaluation of biological models for prediction of tumorigenesis for asbestos and other mineral fibers (Health).

1990: o Evaluation of potential use for biological markers in human exposure monitoring studies (Monitoring).

Objective 3: Provide Information on Special Human Data Needs

1991: o Develop biochemical procedures as measures of human exposure and early indicators of disease processes (Health).

1989: o Report on the effects of asbestos exposure on teachers (Health).

Objective 4: Perform Ecological Research Including Transport, Fate and Field Validation

1991: o Report on comparative acute sensitivity of selected esturaine crustaceans to toxic substances (Environmental Processes).

o Report describing selected SAR relations in uptake of six chemicals by soybean plants (Environmental Processes).

1990: o Report on microbial transformation rate constants of structurally diverse man-made chemicals (Environmental Processes).

- o Report on effects of chemicals on the immune system in wild and laboratory Avians (Environmental Processes).

1989: o Report on an evaluation of cluster analysis techniques for determining community level effects (Environmental Processes).

Objective 5: Perform Engineering Research in Support of TSCA

1991: o Report on the feasibility of a testing/certification program for asbestos equipment and materials (Engineering).

- o Report on emission estimates for welding, cutting, and grinding operations (Engineering).

1990: o Report on in-use effectiveness of negative air systems (Engineering).

- o Report on asbestos removal via glove bags operated under a partial vacuum (Engineering).
- o Report on the effectiveness of two cleaning methods to remove asbestos from carpet (Engineering).

1989: o Developed a protocol superior to the conventional method, for the sampling of new full- and half-face respirators (Engineering).

- o Case-study evaluation of airborne-asbestos concentrations before and during an O&M activity (Engineering).
- o Determined the effect of the addition of C,I. Disperse Blue #79, and azo dye, on the operation of an activated sludge system and an anaerobic digester, and the dye's fate in the treatment systems (Engineering).

Objective 6: Perform Exposure Monitoring Research

1991: o Human Exposure Assessment Location Project - Report on FY 1990 Activities (Monitoring).

- o Report on blood/breath monitoring for total human exposure to toxic pollutants (Monitoring).
- o Progress report on modeling pollutant sources and human activity patterns associated with exposure to toxic pollutants (Monitoring).

Objective 7: Develop Structure Activity Relationships Data

1991: o Develop SAR methods and data bases to allow accurate prediction of the mutagenic and carcinogenic effects of chemicals based on structural and physiochemical parameters (Health).

- o Report on human exposure monitoring at SARA sites (Monitoring).

1990: o Report documenting application of expert systems for predicting reactivity parameters for PMN chemicals (Environmental Processes).

o Report on methods to compute reactivity parameters for electrophiles (Environmental Processes).

o Report on analytical methods for SARA chemicals (Monitoring).

1989: o Progress report on methods to predict toxic mechanisms from chemical structures (Environmental Processes).

Objective 8: Perform Research In Biotechnology

1991: o Development of methods to determine host species and route of exposure differences as they apply to pathogenicity (Health).

1990: o Report on the survival, persistence, and expression of genetically engineered viruses in-vitro and in-vivo under laboratory conditions (Health).

o Report on test methods for an enclosed terrestrial microcosm for evaluating fate and effects of GEMs in terrestrial systems (Environmental Processes).

o Report on evaluation of selected biochemical and ecological methods to assess effects of recombinant bacteria in terrestrial ecosystems (Environmental Processes).

o Report on half-life or aerosolized bacteria (Monitoring).

1989: o Review of progress in biotechnology/MPCA Risk Assessment Program (Environmental Processes).

Objective 9: Perform Studies on Ecotoxicity and Develop Environmental Risk Assessment Protocols

1991: o General bed-water exchange model for risk assessment (Environmental Processes).

o Report on the relation of project results to regulatory criteria and standards (Environmental Processes).

1990: o Users manual for updating stratified lake transport model for risk assessment (Environmental Processes).

o Population model and software incorporating lethal and non-lethal effects on feeding behavior for chemicals that act by reversible modes of action (Environmental Processes).

1989: o Report on biological data base for risk assessment (Environmental Processes).

Objective 10: Provide Support Services for TSCA Studies

1991: o Guidelines for use of human exposure model in regulatory review and report on production of reference materials for quality control (Monitoring).

1990: o Report on computer aided techniques for use in human exposure assessment (Monitoring).

1989: o Report on asbestos quality assurance research activities (Monitoring).

Objective 12: Asbestos

1991: o Report on methods development activities for asbestos monitoring (Monitoring).

1990: o Report on methods development activities for asbestos monitoring (Monitoring).

TOXIC SUBSTANCES

Toxic Substances Research

Budget Request

The Agency requests a total of $28,606,200 supported by 185.5 total workyears for 1991, an increase of $1,861,300 and no change in total workyears from FY 1990. Of the request, $12,324,300 will be for the Salaries and Expenses appropriation, and $16,281,900 for the Research and Development appropriation, an increase of $1,348,500 and $512,800, respectively.

Program Objectives

The Toxic Substances research program supports the Office of Toxic Substances (OTS) by providing the scientific tools and supporting information needed to implement the Pre-Manufacture Notification (PMN) for new chemicals under the Toxic Substances Control Act (TSCA), the Asbestos Hazard Emergency Response Act (AHERA) and the Emergency Planning and Community Right-to-Know Act (EPCRA).

Objective 1. Develop and Validate Test Methods for TSCA Studies. This research develops and validates health exposure and environmental testing protocols to be incorporated into TSCA Section 4 guidelines, risk assessment methods, and analytical methods for identifying and quantifying environmental pollutants.

Objective 2. Perform Health Research on Biological Markers, Dosimetry and Extrapolation. This research develops methods for extrapolating from high to low doses between mammalian species to enhance risk assessment predictability and capability. Research also focuses on developing biomonitoring techniques, and applying biological markers as indicators of exposure and effects to the study of populations exposed to toxicants.

Objective 3. Provide Information on Special Human Data Needs. This activity focuses on investigations of human populations exposed to environmental pollutants. This research will help determine whether biological indicators of dose and/or effects are related to environmental levels of exposure and if they are correlated with adverse effects measured by traditional methods. This research provides an important component to the Agency's overall ability to accurately estimate risks from exposure to chemicals and make regulatory decisions under TSCA.

Objective 4. Perform Ecological Research Including Transport, Fate, and Field Validation. This research focuses on developing and conducting exposure and hazard assessments of chemicals in water, air, and multimedia environments. This research is conducted in response to the TSCA requirement that the Agency take into account ecological risks when making regulatory decisions. Research focuses on inclusion of identified transport and transformation processes, pathways of exposure, population characteristics, environmental features, and hazard assessment techniques.

Objective 5. Perform Engineering Research in Support of TSCA. This research focuses on the development of information to predict the release of and

worker exposure to new and existing chemicals. This research addresses those classes of chemicals for which the Agency does not have adequate information on the degree to which unit operations and existing control systems limit their release as a result of technically based research, allowing for more effective Pre-Manufacture Notification (PMN) decisions to be made.

Objective 6. Perform Exposure Monitoring Research. This research develops methods, evaluates data bases, and statistical tools to improve exposure monitoring. Multimedia monitoring methods and data analysis techniques are designed and tested to characterize human exposure to chemicals of concern.

Objective 7. Develop Structure Activity Relationships Data. These research develop predictive methods (Structure Activity Relationships (SAR)) to provide a tool for determining whether new chemicals pose unreasonable risk or require further testing. Structure activity relationships (SAR) data are important for reviewing and screening PMN chemicals under Section 5 of TSCA. Findings and techniques established by this research will be used to select appropriate toxicity tests, to document test results, to develop fate and effects data bases, and to provide the modeling means to predict toxicity.

Objective 8. Perform Research on Biotechnology. This research develops methods to assess the potential health exposure, risk, and environmental hazards of biotechnology production and products. Methods are also being developed to monitor, contain, and destroy genetically engineered microorganisms (GEMs) from releases and manufacturing processes.

Objective 9. Perform Studies on Ecotoxicity and Develop Environmental Risk Assessment Protocols. This research focuses on development of methodologies and models to determine risks posed to ecosystems by exposure to environmental pollutants. This research is currently developing environmental risk assessment protocols for both aquatic and terrestrial systems, which will be used in evaluating risks from both new and existing chemicals.

Objective 10. Provide Support Services for TSCA Studies. This research provides support for risk and exposure assessments, quality assurance, dissemination of reference standards and quality assurance reagents, as well as, expert consultation on problems associated with the evaluation of PMN chemicals and other toxic substances.

Objective 11. Perform Research on Emergency Planning and Community Right-to-Know (SARA Title III). This research evaluates and validates emission-estimation techniques and monitoring methods to be used by industry and the Office of Toxic Substances in support of the Emergency Planning and Community Right-to-Know Act (EPCRA).

Objective 12. Perform Asbestos Research. Research focuses on evaluating asbestos measurement procedures, abatement, in-place operation and maintenance and control technologies, and development of standardized sampling techniques for asbestos in support of the Asbestos Hazard Emergency Response Act (AHERA).

SCIENTIFIC ASSESSMENT

1991 Program Request

The Agency requests a total of $427,000 supported by 2.0 total workyears for this program, of which $272,000 will be for Salaries and Expenses appropriation and $155,000 will be for the Research and Development appropriation. This represents an increase of $153,300 in the Salaries and Expenses appropriation and $101,500 in the Research and Development appropriation and no change in total workyears. The increase in the Salaries and Expenses appropriation reflects increased personnel and support costs. The increase in the Research and Development appropriation will be used to fund new research in lead pollution prevention.

Provide Support Services for TSCA Studies. Support will be provided for preparation, consultation, and review on OTS generated assessments of carcinogenicity, mutagenicity, adverse reproductive/ developmental effects, and exposure. These activities will support decision making under TSCA (existing chemicals program, PMN review, and test guidelines and rule development).

Perform Research on Emergency Planning and Community Right to Know (SARA Title III). To support implementation of EPCRA, profiles will be prepared and installed into the Integrated Risk Information System (IRIS) to provide public information on the health effects of chemicals released into the environment.

1990 Program

In 1990, the Agency is allocating a total of $172,200 supported by 2.0 total workyears for this program, of which $118,700 is from the Salaries and Expenses appropriation and $53,500 is from the Research and Development appropriation.

The 1990 research program is providing support for the review of risk and exposure assessments and developing protocols for risk assessments.

1989 Accomplishments

In 1989, the Agency obligated a total of $126,700 supported by 1.8 total workyears for this program, of which $123,100 was from the Salaries and Expenses appropriation and $3,600 was from the Research and Development appropriation.

In 1989, research activities included a reviewal of the test rule on tetramethylene diisocyanate, and conducting a developmental and reproductive risk assessment course.

MONITORING SYSTEMS AND QUALITY ASSURANCE

1991 Program Request

The Agency requests a total of $5,511,500 supported by 25.0 total workyears for this program, of which $1,705,000 will be for the Salaries and Expenses appropriation and $3,806,500 will be for the Research and Development appropriation. This represents increases of $194,600 in the Salaries and Expenses

appropriation and $99,300 in the Research and Development appropriation. There is no change in total workyears. The increases in the Salaries and Expenses appropriation reflect increased personnel and support costs. The increase in the Research and Development appropriation will be used to fund additional monitoring methods research.

Develop and Validate Test Methods for TSCA Studies. Research will focus on developing and evaluating instruments, analytical methods and procedures to identify and quantify chemical compounds in environmental media, and biological tissues and fluids. This research will emphasize bioassays, immunochemistry, multi-residue analysis procedures, and developing chemometric approaches.

Perform Health Research on Biological Markers, Dosimetry and Extrapolation. Genetic, immunological, and biochemical biomarkers for their suitability as indicators of exposure to pollutants will be evaluated. These biomarkers will provide more flexible human exposure monitoring for chemical pollutants which cannot be studied by conventional analytical chemistry procedures. Laboratory studies will be conducted to obtain data about the specificity and sensitivity of biomarkers to indicate exposure.

Perform Exposure Monitoring Research. Human exposure to toxic substances via multiple pathways will be studied to improve and expand the Total Exposure Assessment Methodology (TEAM). Microenvironmental studies will be used to determine human activity patterns. Human exposure models will be developed and evaluated using TEAM data and human activity pattern information from microenvironment models. Breath measurements will be made to obtain human exposure data for models.

Perform Research on Biotechnology. Standardized monitoring procedures and methods for sampling genetically engineered microorganisms will be developed to measure routine releases of GEMs into the environment. Factors important in GEMs dispersal and persistence will be identified and described.

Provide Support Services for TSCA Studies. Monitoring and quality assurance (QA) guidelines for bioassays data management procedures will be produced. Computerized approaches for risk evaluation (CARE) will be tested by application of geographic information system (GIS) technology to existing exposure data in a contaminated area.

Perform Research on Emergency Planning and Community Right to Know (SARA Title III). Under EPCRA, validated sampling and analytical methods will be provided to OPTS to support environmental and human exposure monitoring investigations of chemical releases. Research will be conducted to use GIS technology to model environmental pollution from multimedia emission sources.

Perform Asbestos Research. Research will support the implementation of the Asbestos Hazard Emergency Response Act (AHERA) by improving sampling and analysis protocols to monitor exposure to airborne asbestos and durable fibers.

1990 Program

In 1990, the Agency is allocating a total of $5,217,600 supported by 25.0 total workyears for this program, of which $1,510,400 is from the Salaries and Expenses appropriation and $3,707,200 is from the Research and Development

appropriation.

The 1990 research program includes research on exposure monitoring, analytical methods and providing quality assurance and assessment activities support for exposure assessment.

1989 Accomplishments

In 1989, the Agency obligated a total of $4,919,300 supported by 23.5 total workyears for this program, of which $1,446,000 was from the Salaries and Expenses appropriation and $3,473,300 was from the Research and Development appropriation.

Biological monitoring methods and biomarkers were evaluated for their possible use in human exposure monitoring studies. Quality assurance materials for asbestos and organic chemicals were produced. Bioassay tests were standardized. A preliminary model of human exposure to benzene was constructed.

HEALTH EFFECTS

1991 Program Request

The Agency requests a total of $9,409,700 supported by 62.4 total workyears for this program, of which $3,925,000 will be for the Salaries and Expenses appropriation and $5,484,700 will be for the Research and Development appropriation. This represents an increase of $501,400 in the Salaries and Expenses appropriation and an increase of $218,000 in the Research and Development appropriation. There is no change in total workyears. The increase in Salaries and Expenses appropriation reflects increased personnel and support costs. The increase in the Research and Development appropriation reflect increased biotechnology research.

Develop and Validate Test Methods for TSCA Studies. Health research will focus on developing bioassay methods for predicting non-cancer endpoints, with particular emphasis on neurotoxicity, immunotoxicity and developmental effects. These methodologies will be used to evaluate industry submitted data on health effects of new chemicals to provide test guidelines which ensure that the data is accurate, reproducible, and consistent.

Perform Health Research on Biological Markers, Dosimetry and Extrapolation. Improved techniques for extrapolation from animal data to assess human health risks will be developed. This research provides an important component to the risk assessment process. Emphasis will be on target organ dosimetry (including oral, dermal, and inhalation routes of exposure), to determine if the equivalent doses reaching the target site produce equivalent effects. Biological markers of exposure will also be investigated.

Provide Information On Special Human Data Needs. Research will examine the application of biological markers to human populations groups exposed to environmental contaminants which are suspect toxicants. Chemical data bases will be constructed for particular areas of toxicological response, including mutagenic and carcinogenic potential.

Develop Structure Activity Relationships Data. Methods for predicting enzymatic, mutagenic, carcinogenic, and other biological activities from molecular structures of chemicals will be developed using pattern recognition, statistical, and thermodynamic techniques. Research results provide a rapid method for predicting effects of new chemicals based on known data for chemicals of similar structure.

Perform Research on Biotechnology. Potential dispersal capability of bioengineered organisms will be studied, along with their potential health hazards. Health studies will compare the effects of these organisms and naturally occurring strains on mammalian gut flora. Research will also be initiated to determine the interaction on invertebrate viruses with human and other vertebrate cells. This research supports the PMN review process for biotechnology products.

1990 Program

In 1990, the Agency is allocating a total of $8,690,300 supported by 62.4 total workyears for this program, of which $3,423,600 is from the Salaries and Expenses appropriation and $5,266,700 is from the Research and Development appropriation.

The 1990 research program is developing test methods in support of TSCA Section 4 test guidelines, conducting research on extrapolation, biological markers, structure activity relationships, and assessing potential health effects from genetically engineered organisms.

1989 Accomplishments

In 1989, the Agency obligated a total of $10,806,200 supported by 62.5 total workyears for this program, of which $3,502,200 was from the Salaries and Expenses appropriation and $7,304,000 was from the Research and Development appropriation.

Research accomplishments included a summary report for human and biomarkers research on cancer, and a critical appraisal of the functional observation battery (FOB) and motor activity (MA) as a screen for acute neurotoxicity.

ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

1991 Program Request

The Agency requests a total of $3,068,700 supported by 10.6 total workyears for this program, of which $693,000 will be for the Salaries and Expenses appropriation and $2,375,700 will be for the Research and Development appropriation. This represents an increase of $43,200 in the Salaries and Expenses appropriation and $452,300 in the Research and Development appropriation, respectively. There is no change in total workyears. The increase in the Salaries and Expenses appropriation reflects increased personnel and support costs for the operation of a total materials containment facility. The increase in the Research and Development appropriation reflects new research in lead pollution prevention.

Perform Engineering Research in Support of TSCA. Techniques for predicting toxic releases and exposures from processing and manufacturing new

chemicals will be developed. Research on priority dye-class compounds, as determined by the Interagency Testing Committee, will focus on improving their treatability in wastewater systems with respect to their toxicity.

Perform Research on Biotechnology. An improved qualitative model will be developed for the state-of-the-art biotechnology processing equipment. Research will be initiated to investigate operator/process-equipment interactions, and actual plant data on the source and approximate magnitude of release and worker exposure that will be acquired based on actual field tests. Evaluation of this research supports the TSCA requirement to evaluate biotechnology products for workplace exposure during manufacturing and processing.

Perform Research on Emergency Planning and Community Right to Know (SARA Title III). Research will focus on identifying important chemicals and industrial centers in order to enhance the reliability of decisions based on Section 313 chemicals data.

Perform Asbestos Research. Asbestos research will evaluate existing techniques for asbestos abatement and characterize their effectiveness and cost. Comprehensive tests of removal and containment techniques will be made under controlled conditions to determine their utility. Research shall emphasize the ability to remove or contain small fibers.

1990 Program

In 1990, the Agency is allocating a total of $2,573,200 supported by 10.6 total workyears for this program, of which $649,800 is from the Salaries and Expenses appropriation and $1,923,400 is from the Research and Development appropriation.

The 1990 research program is developing information on release, exposure and control measures for new and existing chemicals in the workplace, including genetically engineered organisms.

1989 Accomplishments

In 1989, the Agency obligated a total of $2,270,800 supported by 10.4 total workyears for this program, of which $629,600 was from the Salaries and Expenses appropriation and $1,641,200 was from the Research and Development appropriation.

In 1989, a report on the addition of C.I. Disperse Blue #79, an azo dye, on the operation of an active sludge system, anaerobic digesters, and the dye's fate in the treatment system was produced.

ENVIRONMENTAL PROCESSES AND EFFECTS

1991 Program Request

The Agency requests a total of $10,189,300 supported by 85.5 total workyears for this program, of which $5,729,300 will be for the Salaries and Expenses appropriation and $4,460,000 will be for the Research and Development appropriation. This represents increases of $456,000 in the Salaries and Expenses appropriation and a decrease of $358,300 in the Research and Development

appropriation. There is no change in total workyears. The increase in the Salaries and Expenses appropriation reflects increased personnel and support costs. The decrease in the Research and Development appropriation reflects a reprogramming of resources used to fund equipment for the new biotechnology facility at the Gulf Breeze laboratory.

Develop and Validate Test Methods for TSCA Studies. Test methods for assessing the impact of existing and potentially toxic chemicals on freshwater, marine estuarine organisms, and on habitat alterations will be developed and evaluated. Tests on bioavailability, comparisons of hazard ranking, and of single species effects (e.g., carcinogenicity) will be improved. Such information will directly support development of TSCA Section 4 guidelines.

Perform Ecological Research Including Transport, Fate and Field Validation. Predictive methodologies/models for conducting chemical exposure and effects assessments in freshwater, estuarine/marine water, groundwater, air, terrestrial, and total ecosystems will be developed. Mathematical models will be validated for use as reliable simulators and predictors of the movement, transformation, exposure concentrations, and fate of toxic chemicals through ecosystems. Studies will be conducted in microcosms and field scale mesocosms to address problems related to comparative toxicology, system-level effects, hazard evaluations, and terrestrial plant and wildlife toxicology. This research will support the TSCA PMN process and Section 4 test rule development.

Develop Structure Activity Relationships Data. Research will determine toxicity and preform risk estimates for PMN and EPCRA chemicals submitted under TSCA Section 5. This includes Quantitative Structure Activity Relationships (QSAR) on typical PMN chemicals, documentation of test results on PMN analogs, and developing Structure Activity Relationships (SAR) methodologies and other estimation techniques. Research will include data base compilation, chemicals testing (modes of action, genotoxic potential), and development of SAR type correlations.

Perform Research on Biotechnology. Methods, analytical techniques, and testing protocols for estimating survival, fate, and effects of microorganisms released to the environment; and the stability within their genetic pool will be developed. Methods will be developed for detecting gene persistence and transfer. The collected data and developed protocols will be compiled for use by OPTS in their evaluations of PMNs for biotechnology products.

Perform Studies on Ecotoxicity and Develop Environmental Risk Assessment Protocols. Mathematical models, support data, and appropriate protocols to determine exposure and hazard assessments for ecosystems will be provided. Predictive models and methodology will be subjected to field testing. Ecosystem impacts and recovery potential will be determined. These environmental risk assessment methods will substantially enhance the Agency's ability to regulate chemicals under Sections 4 and 5 of TSCA.

Provide Support Services for TSCA Activities. Environmental process research will support OTS on complex problems relating to environmental fate, exposure, effects, hazard and environmental risk of toxic chemicals and bio-engineered organisms.

1990 Program

In 1990, the Agency is allocating a total of $10,091,600 supported by 85.5 total workyears for this program, of which $5,273,300 is from the Salaries and Expenses appropriation and $4,818,300 is from the Research and Development appropriation.

This research program is developing test methods in support of TSCA Section 4 guidelines; conducting research on transport, fate, and field validation; and developing chemical structure activity relationships data. Research is also being performed on the development of environmental risk assessment methods, as well as research to determine the environmental effects of genetically engineered organisms.

1989 Accomplishments

In 1989, the Agency obligated a total of $9,847,000 supported by 83.6 total workyears for this program, of which $5,515,000 was from the Salaries and Expenses appropriation and $4,332,000 was from the Research and Development appropriation.

In 1989, research activities included a report on the SAR methods for predicting metabolism from chemical structure.

Abatement and Control

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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TOXIC SUBSTANCES
Toxic Substances - Financial Assistance

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
PROGRAM						
Asbestos-In-School - Abatement Loans and Grants						
Abatement Control and Compliance		$44,598.9	$44,007.3	$43,443.0		-$43,443.0
	TOTAL	$44,598.9	$44,007.3	$43,443.0		-$43,443.0
Asbestos-In-School - Program Administration						
Salaries & Expenses		$548.1				
Abatement Control and Compliance		$4,442.8				
	TOTAL	$4,990.9				
Asbestos-In-School - Contractor Certification Program						
Abatement Control and Compliance		$798.9				
	TOTAL	$798.9				
TOTAL:						
Salaries & Expenses		$548.1				
Abatement Control and Compliance		$49,840.6	$44,007.3	$43,443.0		-$43,443.0
Toxic Substances - Financial Assistance	TOTAL	$50,388.7	$44,007.3	$43,443.0		-$43,443.0
PERMANENT WORKYEARS						
Asbestos-In-School - Program Administration		12.2				
TOTAL PERMANENT WORKYEARS		12.2				
TOTAL WORKYEARS						
Asbestos-In-School - Program Administration		12.3				
TOTAL WORKYEARS		12.3				

Toxic Substances Financial Assistance

Budget Request

The Agency requests no funding under this subactivity in 1991. All asbestos-related activities and resources for 1991 are found within the Toxic Substances Strategies subactivity, under the Asbestos in Buildings program. There is a decrease of $43,443,000 for this subactivity from 1990, all of which is in the Abatement, Control and Compliance appropriation.

ASBESTOS-IN-SCHOOLS LOANS AND GRANTS

1991 Program Request

No funds are requested for this program in 1991. This represents a decrease of $43,443,000 for Abatement, Control and Compliance. The Agency has elected not to request funds for loans and grants for asbestos abatement in schools. Federal resources under this program in previous years (approximately $245,000,000 through 1990) have greatly alleviated the need for a continuing Federal role. By 1991 all schools should be well along in implementing their asbestos management plans. Further, many states have initiated asbestos management and contractor accreditation programs for schools and are expected to continue these activities.

1990 Program

In 1990, the Agency is allocating $43,443,000 for the Asbestos School Hazard Abatement Act (ASHAA) loan and grant program, all of which is from the Abatement, Control and Compliance appropriation, to help local education agencies (LEAs) with serious financial need to abate asbestos hazards. Under this program, the Agency solicits applications from schools, ranks applications in terms of hazard and need, and makes award determinations in consultation with the states.

1989 Accomplishments

In 1989, the Agency obligated a total of $44,598,900 for this program, all of which was from the Abatement, Control and Compliance appropriation.

The Agency made awards, as either grants or interest-free loans, to 231 public school districts and private schools for 401 individual abatement projects, mostly removals of asbestos-containing materials. As of 1989 EPA had awarded more than $200,000,000 to about 875 LEAs to fund nearly 2,200 individual abatement projects. These EPA-funded projects are estimated to eliminate 17.3 million hours of exposure to asbestos fibers to students, teachers and staff each week.

ASBESTOS-IN-SCHOOLS PROGRAM ADMINISTRATION

1991 Program Request

Funding for this program is being requested under the Asbestos in Buildings program in 1991.

1990 Program

Funding for this program is being allocated under the Asbestos in Buildings program in 1990.

1989 Accomplishments

In 1989, the Agency obligated a total of $4,990,900 supported by 12.3 total workyears for this program, of which $548,100 was from the Salaries and Expenses appropriation and $4,442,800 was from the Abatement, Control and Compliance appropriation.

In 1989, EPA conducted close-out site evaluations of asbestos projects for which ASHAA funds were awarded in previous years to ensure loan repayment and that proper abatement was attained. Also in 1989 the Agency began to implement the four major recommendations of the Asbestos Hazard Emergency Response Act (AHERA) public buildings study completed in 1988. EPA produced guidance, training materials, model state programs, and other technical assistance materials in support of asbestos management and abatement projects in public and commercial buildings as well as in schools. Regional technical assistance was provided for EPA's ASHAA and AHERA school assistance program. A formal plan for research on indoor asbestos exposure levels, in cooperation with the Health Effects Institute (HEI), was negotiated in 1989, with the research to begin in 1990.

ASBESTOS-IN-SCHOOLS CONTRACTOR AND INSPECTOR CERTIFICATION

1991 Program Request

Funding for this program is being requested under the Asbestos in Buildings program in 1991.

1990 Program

Funding for this program is being allocated under the Asbestos in Buildings program in 1990.

1989 Accomplishments

The Agency obligated a total of $798,900 for this program, all of which was from the Abatement, Control and Compliance appropriation.

In 1989, the Agency conducted AHERA accreditation activities, state support programs, and outreach and compliance assistance for the requirements of the AHERA schools rule. EPA provided training materials and technical guidance documents for building owners, managers and workers, developed thermal system

insulation asbestos abatement training course materials and guidance, and initiated an evaluation of the AHERA schools rule.

TOXIC SUBSTANCES
Toxic Substances Strategies

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
			(DOLLARS IN THOUSANDS)			
PROGRAM						
Chemical Testing						
Salaries & Expenses		$4,655.6	$4,138.9	$3,498.1	$3,523.0	$24.9
Abatement Control and Compliance		$3,562.0	$2,892.7	$2,449.6	$2,262.3	-$187.3
	TOTAL	$8,217.6	$7,031.6	$5,947.7	$5,785.3	-$162.4
Existing Chemical Review						
Salaries & Expenses		$5,608.8	$6,485.3	$9,203.1	$9,566.0	$362.9
Abatement Control and Compliance		$5,952.2	$7,782.5	$8,345.9	$8,370.7	$24.8
	TOTAL	$11,561.0	$14,267.8	$17,549.0	$17,936.7	$387.7
New Chemical Review						
Salaries & Expenses		$12,786.1	$13,720.4	$8,174.8	$9,734.0	$1,559.2
Abatement Control and Compliance		$7,867.5	$8,310.3	$7,220.1	$7,611.2	$391.1
	TOTAL	$20,653.6	$22,030.7	$15,394.9	$17,345.2	$1,950.3
Asbestos In Buildings						
Salaries & Expenses			$597.5	$1,304.6	$1,449.0	$144.4
Abatement Control and Compliance			$10,808.7	$10,670.7	$6,234.6	-$4,436.1
	TOTAL		$11,406.2	$11,975.3	$7,683.6	-$4,291.7
Regional Toxics Program						
Salaries & Expenses			$426.9	$431.5	$695.0	$263.5
Abatement Control and Compliance					$250.0	$250.0
	TOTAL		$426.9	$431.5	$945.0	$513.5
TOTAL:						
Salaries & Expenses		$23,050.5	$25,369.0	$22,612.1	$24,967.0	$2,354.9
Abatement Control and Compliance		$17,381.7	$29,794.2	$28,686.3	$24,728.8	-$3,957.5
Toxic Substances Strategies	TOTAL	$40,432.2	$55,163.2	$51,298.4	$49,695.8	-$1,602.6

TOXIC SUBSTANCES
Toxic Substances Strategies

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PERMANENT WORKYEARS					
Chemical Testing	69.6	76.2	65.8	60.8	-5.0
Existing Chemical Review	103.8	120.0	158.7	165.1	6.4
New Chemical Review	246.3	252.6	154.0	168.0	14.0
Asbestos In Buildings		11.0	25.0	25.0	0.0
Regional Toxics Program		10.0	9.1	15.1	6.0
TOTAL PERMANENT WORKYEARS	419.7	469.8	412.6	434.0	21.4
TOTAL WORKYEARS					
Chemical Testing	71.1	76.2	65.8	60.8	-5.0
Existing Chemical Review	108.8	120.0	158.7	165.1	6.4
New Chemical Review	260.6	252.6	154.0	168.0	14.0
Asbestos In Buildings		11.0	25.0	25.0	0.0
Regional Toxics Program		10.0	10.1	15.1	5.0
TOTAL WORKYEARS	440.5	469.8	413.6	434.0	20.4

Toxic Substances Strategies

Budget Request

The Agency requests a total of $49,695,800 supported by 434 total workyears for 1991, a decrease of $1,602,600 and an increase of 20.4 total workyears from 1990. Of the request, $24,967,000 will be for the Salaries and Expenses appropriation, and $24,728,800 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $2,354,900 in the Salaries and Expenses appropriation and a decrease of $3,957,500 in the Abatement, Control and Compliance appropriation.

CHEMICAL TESTING

1991 Program Request

The Agency requests a total of $5,785,300 supported by 60.8 total workyears for this program, of which $3,523,000 will be for the Salaries and Expenses appropriation and $2,262,300 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $24,900 for Salaries and Expenses, a decrease of $187,300 for Abatement, Control and Compliance, and a decrease of 5.0 total workyears. The decreases reflect implementation of more efficient procedures for developing testing consent orders, rulemaking, and conducting literature searches and data evaluations.

In 1991 there will continue to be two facets to the Chemical Testing Program (CTP): responses to the Interagency Testing Committee (ITC) and non-ITC initiatives. Major non-ITC actions for consideration in 1991 include: a screening test rule using the international Screening Information Data Set (SIDS) under development by the Organization for Economic Cooperation and Development (OECD); a screening rule for the Superfund Amendments and Reauthorization Act (SARA) section 313 chemicals lacking critical basic data; a final rule on chlorofluorocarbons (CFCs); an OPTS-initiated rule on major health endpoints for high volume solvents; a SARA section 110 rule covering the Tox-Profile chemicals; one or more client rules; and three endpoint test rules (one final; two proposed). The SIDS screening rule is part of an overall effort to seek international cooperation and coordination in generating chemical test data. The ITC Test Rule Program is expected to have a decrease in actions resulting from a decision not to pursue testing for candidates that appear marginal or appear to raise scientific issues which require substantial resources to resolve. Response to anticipated ITC recommendations are expected to include 3 initial actions, 3 post initial actions, and 4 final actions. However, these numbers may change as a result of the actual chemicals listed by the ITC. Data development will begin on the 27th and 28th ITC lists. Procedural rules include one final rule revising the consent order process and one unspecified rule. Resources will be allocated to the review of test data on 20 chemicals and responding to test standard modifications, both of which are expected to increase substantially during the 1990s. Finally, OPTS will continue to address science policy issues that arise in test rule development which are not chemical specific (i.e., pharmacokinetics, inhalation), but which have broader relevance to the

science of testing and decisionmaking in the areas of neurotoxicity, mutagenicity, and immuntoxicity.

The Agency will also review and update published test guidelines, which are an essential part of any test rule. Following evaluation of a candidate list, two new test guidelines will be completed.

1990 Program

In 1990, the Agency is allocating a total of $5,947,700 supported by 65.8 total workyears for this program, of which $3,498,100 is from the Salaries and Expenses appropriation and $2,449,600 is from the Abatement, Control and Compliance appropriation.

In 1990, the ITC testing program will publish initial testing decisions on five chemicals from the 23rd ITC list. The 24th list had no recommendations and designations of chemicals for testing. Work is underway on the 25th and 26th lists. Work is underway on publishing another four testing actions on ITC chemicals, including four final rules requiring testing to begin.

The non-ITC testing program includes completion of a final multi-chemical rule for the Office of Drinking Water (ODW), the first final SARA section 110 test rule to obtain data on chemicals nominated by the Agency for Toxic Substances disease Registry, a second proposed SARA section 110 test rule on chemicals found at Superfund sites, and a proposed endpoint test rule (the first in a series of multi-chemical work rules that require testing or a single endpoint. Work is continuing on a multi-chemical rule to cover specific Toxic Release Inventory (SARA Title III section 313) chemicals. In addition we expect to propose one rule dealing with CFC substitutes and a listing test rule to address new CFC substitutes. Client rules include two proposed and one final. We anticipate an increase in test data receipt, document processing, and handling resulting from previous years testing requirements. Following data analysis and review, these data are routed directly to the Existing Chemical Program. It is anticipated that these data will result in several new starts for the Existing Chemical Review process.

Procedural rules planned for 1990 include a final low volume exemption rule, a final rule expediting test standard modification, and a proposed rule revising the consent order process. The CTP also continues to perform annual reviews and updates of published test guidelines. Following evaluation of a candidate list, two new test guidelines will be completed.

1989 Accomplishments

In 1989, the Agency obligated a total of $8,217,600 supported by 71.1 total workyears for this program, of which $4,655,600 was from the Salaries and Expenses appropriation and $3,562,000 was from the Abatement, Control and Compliance appropriation.

During 1989, a total of 14 ITC testing actions were completed. Initial decisions included one chemical on the 22nd ITC list (21st list was removed from the priority list by the ITC); another 14 testing decisions were published, including 11 final rules and three proposed rules. One new test guideline and one procedural rule were published.

EXISTING CHEMICAL REVIEW

1991 Program Request

The Agency requests a total of $17,936,700 supported by 165.1 total workyears for this program, of which $9,566,000 will be for the Salaries and Expenses appropriation and $8,370,700 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $362,900 for Salaries and Expenses, an increase of $24,800 for Abatement, Control and Compliance and an increase of 6.4 total workyears. The increase in Salaries and Expenses reflects increased personnel costs and the increase in workyears. The increase in Abatement, Control and Compliance will support the creation of a state cooperative agreement program for managing PCBs and additional risk assessments and risk management analyses.

In 1991, EPA will continue to give priority attention to those existing chemicals which appear to have a significant potential to reduce risks to the environment and human health. The identification of these chemicals is achieved through a formal screening process which is being significantly improved in 1990. Chemicals that are candidates for risk management in 1991 include: indoor pollution from new carpeting, brominated flame retardants and chlorofluorocarbon (CFC) substitutes. Two matters under court order, dioxin in paper and follow-up to the dioxin/furan reporting rule, may also require risk management attention in 1991. Implementation of the permit provisions of the asbestos ban and phase out rule and of PCB exemption and permit activities will also continue.

TSCA affords EPA the opportunity to gather information on pollution problems not only for risk management under TSCA, but also for other program areas that lack TSCA's broad information gathering authorities. This program will continue to provide this support in 1991. By 1991, EPA will have gained important knowledge of possible exposure to existing toxic chemicals through the three years of toxic release data collected under section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA). Screening these data will generate candidates for further information gathering, data development and risk assessment. In 1991, six information gathering rules including amendments to the Comprehensive Assessment Information Rule (CAIR) will be published. EPA will continue to review and take action on TSCA section 8(e) and for-your-information (FYI) notices, incorporating toxic release data wherever appropriate. EPA will also continue working with the Agency for Toxic Substances and Disease Registry (ATSDR) on SARA section 110 hazard data gaps and playing a substantial and expanding role in a coordinated national and international cooperative effort in assessing existing chemicals.

The existing chemicals review program will take part in several initiatives as part of the overall Agency pollution prevention effort. These include: a life-cycle approach to reducing lead exposure; the establishment of university-based pollution prevention training centers; participation with the water program in an industrial pollution source reduction and recycling project; and participation with the Office of Research and Development in a volatile organic compounds area-source prevention effort.

One of EPA's goals is to achieve more comprehensive environmental management of chemicals by strengthening regional and state programs. In 1991 we will initiate state cooperative agreements under section 28 of TSCA to provide

start-up funding at the state level to strengthen state PCB programs. These cooperative agreements will allow states to establish their own programs to manage PCB manufacturing, processing and disposal, including permitting PCB disposal sites. This start-up funding will help to avoid the many years of delay that states would otherwise experience in initiating PCB programs.

1990 Program

In 1990, the Agency is allocating a total of $17,549,000 supported by 158.7 total workyears for this program, of which $9,203,100 is from the Salaries and Expenses appropriation and $8,345,900 is from the Abatement, Control and Compliance appropriation.

In 1990, TSCA information gathering activities continue to generate a significant amount of data on existing chemicals. The Agency plans to propose or finalize eleven information gathering rules, some of which will provide data collection on multiple chemicals for the Agency and other interested federal agencies. The existing chemical review program also screens and disseminates section 8(e) and voluntary for-your-information notices to the appropriate audience. Work is continuing with ATSDR on development of toxicological profiles under SARA section 110.

In 1990, we are addressing a number of chemicals, including dioxins/furans, PCBs, formaldehyde, lead, CFC substitutes, and chlorinated solvents through risk management actions. EPA is under court order to address the problem of dioxin in paper and dioxin contamination in commercial chemicals. This effort will produce a multi-media risk assessment and a decision on the need for regulation in 1990. Risk assessment on dioxin contamination in commercial chemicals begins in 1990 as EPA receives data under the dioxin/furan reporting rule. EPA will finalize the PCB notification and manifesting rule in 1990, enabling the Agency to better track the disposal of PCB wastes and obtain information on companies that handle and store PCB wastes prior to disposal. A proposed PCB permit revocation rule is underway which will establish criteria and procedures for revocation of PCB permits issued under TSCA. Options selection will be completed by the end of 1990 on aerosol and paint stripping uses of chlorinated solvents and on formaldehyde used in wood products.

Sample collection and storage for the human adipose tissue monitoring program will be continued through 1990 while EPA awaits an evaluation of the program by the National Academy of Sciences. We are also implementing the lead-based paint abatement activities provided for in the EPA/Housing and Urban Development (HUD) Memorandum of Understanding (MOU).

1989 Accomplishments

In 1989, the Agency obligated a total of $11,561,000 supported by 108.8 total workyears for this program, of which $5,608,800 was from the Salaries and Expenses appropriation and $5,952,200 was from the Abatement Control and Compliance appropriation.

In 1989, 16 proposed or final information gathering section 8 or section 5(a) rules were promulgated, including the next iteration of the section 8(a) CAIR. The Agency received 1,152 reports under section 8(a) and section 8(d),

and 454 section 8(e) or FYI notices. Preliminary risk assessments were conducted on four chemicals and detailed risk assessments on two chemicals.

Completed risk management actions included a final asbestos ban and phase-out rule banning the manufacture and uses of asbestos products, and options selection on metal cleaning uses of chlorinated solvents.

Other activities during 1989 included options selections for formaldehyde and aerosol and paint stripping uses of chlorinated solvents. Strategies or workplans were prepared for dioxins and furans in bleached paper products and for dioxin/furan contaminants. We issued six permits to dispose of PCBs. The regulatory review of paradichlorobenzene was referred to the Occupational Safety and Health Administration (OSHA) under TSCA section 9(d).

NEW CHEMICAL REVIEW

1991 Program Request

The Agency requests a total of $17,345,200 supported by 168.0 total workyears for this program, of which $9,734,000 will be for the Salaries and Expenses appropriation and $7,611,200 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $1,559,200 for Salaries and Expenses, an increase of $391,100 for Abatement, Control and Compliance and an increase of 14.0 total workyears. The increase in total workyears and Abatement, Control and Compliance reflects increased costs associated with the biotechnology program. The increase in Salaries and Expenses reflects support for current and increased total workyears, as well as support for implementation of optical disk technology and increases in international travel to participate in conferences to facilitate better implementation of biotechnology regulations with the Organization of Economic Cooperation and Development (OECD) and the European community.

In 1991, we estimate receipt of approximately 3,000 new chemical notices. This is an increase of 250 notices over our current estimate for 1990. About 15% of the submissions are expected to result in voluntary or formal control actions. However, the increase in workload will be largely offset by productivity reforms implemented in 1989 and 1990. The majority of notices will be subject to the user fee rule published in 1988, generating approximately $5,000,000 in revenues for deposit into the General Fund.

Rulemaking activities will focus on the initiation of several amendments to the Premanufacturing Notice (PMN) rule. These amendments are needed to address ambiguities in the current rule resulting from advances in industrial chemistry. In 1991, the implementation of several program improvements will occur, including streamlining the process for making Confidential Business Information (CBI) claims, making section 5 regulation quicker and easier to impose and improving data collection capabilities. Full implementation of the New Chemical Follow-up Rule will enable the New Chemical Program (NCP) to include more new chemicals under Significant New Use Rules (SNURs) in 1991, thereby reducing the time margin during which a SNUR can be preempted by the introduction of a chemical into commerce.

By the end of 1991, the Agency's policy on biotechnology will be fully implemented; i.e., the General Biotechnology Rule and the Closed System Section 5(h)(4) Rule will be promulgated. In addition, we will propose an Inventory Update Rule for biotechnology. Submissions for microbial products are expected to expand to 40. It is anticipated that 50% of these submissions will result in section 5(e) orders. As with any new program, numerous questions of policy and review processes modifications are anticipated. Additional resources will be shifted to this activity as needed.

1990 Program

In 1990, the Agency is allocating a total of $15,394,900 supported by 154.0 total workyears for this program, of which $8,174,800 is from the Salaries and Expenses appropriation and $7,220,100 is from the Abatement, Control and Compliance appropriation.

In 1990, the Agency expects an increase in the number of new chemical submissions (premanufacture notices or PMNs) for a total of 2,750. The majority of notices are subject to the user fee rule, generating approximately $4,000,000 in revenues for deposit into the General Fund. We also expect to receive 20 notices for microbial products. Review procedures for microbial products are more resource intensive than regular submissions and are expected to result in section 5(e) orders on most submissions to require development of additional information.

An optical disk document storage system will be made operational in 1990 through initial purchases of equipment. This state of the art technology provides timely access to documents received and generated by the program through more efficient storage, automated tracking and retrieval. When fully implemented, and the optical disk system will reduce costs and significantly improve productivity over the current microfiche system.

In 1990, EPA is proposing two rules to implement the 1986 policy for microbial products: 1) a General Biotechnology Rule providing for modification of the existing PMN reporting rule for microorganisms, a research and development exemption, significant new uses of microorganisms, and user fees; and, 2) a section 5(h)(4) rule providing the exemption policy for contained and closed systems.

1989 Accomplishments

In 1989, the Agency obligated a total of $20,653,600 supported by 260.6 total workyears for this program, of which $12,786,100 was from the Salaries and Expenses appropriation and $7,867,500 was from the Abatement, Control and Compliance appropriation.

In 1989, the NCP received 1,493 PMNs for new chemicals and conducted 6 biotechnology reviews. The majority of PMNs were subject to the user fee rule, generating $2,500,000 in revenues for deposit into the General Fund. During 1989, significant reforms were initiated to reduce the unit cost of PMN reviews. These reforms included: 1) revisions of low volume, intermediates, and polymer exemption policies; 2) implementation of the User Fee Rule, which occurred in

FY 1988; 3) a streamlined PMN Validation Process; 4) an expanded use of chemical class or category assessments; and 5) a streamlined rule writing procedure.

ASBESTOS IN BUILDINGS

1991 Program Request

The Agency requests a total of $7,683,600 supported by 25.0 total workyears for this program, of which $1,449,000 will be for the Salaries and Expenses appropriation and $6,234,600 will be for the Abatement Control and Compliance appropriation. This represents an increase of $144,400 for Salaries and Expenses, a decrease of $4,436,100 for Abatement, Control and Compliance and no change in total workyears. The increase in Salaries and Expenses is the result of increased personnel costs. The Abatement, Control and Compliance decrease results from a 1990 Congressional add-on for worker training and administrative costs for the asbestos-in-schools loan and grant program that is not carried over into the 1991 request.

The major thrust of the 1991 asbestos program will be to implement the 1990 national asbestos strategy. This strategy lays out the major program activities needed for conducting a coordinated asbestos program for schools and public and commercial buildings.

In 1991, EPA will conduct close-out site evaluations on Asbestos School Hazard Abatement Act (ASHAA) loan and grant projects awarded in 1987 through 1989 and monitor projects awarded in 1990. Technical assistance services will continue to be provided through American Association of Retired Persons (AARP) personnel. We will provide technical assistance and guidance documents to assist schools in complying with Asbestos Hazard Emergency Response Act (AHERA) rules, and offer counsel about AHERA requirements to school officials, particularly those with priority abatement projects that have not been addressed through the ASHAA loan and grant program.

The AHERA schools program will involve a variety of implementation activities, including new training materials for special operations and maintenance activities in schools, a parent/teacher guide to asbestos and a model implementation program for school management plans. Another major activity will be helping states improve their accreditation programs required under AHERA, and other state programs affecting schools.

Funding of cooperative agreements to establish and expand state asbestos accreditation and management programs will expand, with funding increasing to $1,500,000. This funding provides start-up monies to help the states establish comprehensive asbestos abatement programs in public and commercial buildings, expanding beyond such programs established for asbestos abatement in schools.

The joint research program sponsored by the EPA and the Health Effects Institute (HEI) will continue, with a Federal funding level of $2,000,000. This research focuses on indoor airborne asbestos levels, and attracts funding from a variety of private interests, such as current and former asbestos product manufacturers, realtors, building owners and managers, mortgage bankers, labor organizations and environmental groups.

1990 Program

In 1990, the Agency is allocating a total of $11,975,300 supported by 25.0 total workyears for this program, of which $1,304,600 is from the Salaries and Expenses appropriation and $10,670,700 is from the Abatement, Control and Compliance appropriation.

In 1990, in consultation with industry and environmental groups, EPA is developing and implementing a national asbestos strategy to serve as a blueprint for coordinating all aspects of its asbestos in building efforts. Through a grant to the American Association of Retired Persons (AARP), EPA continues to provide technical assistance to states, school districts, building owners, professional and worker groups, and the general public. Headquarters and Regional staff, in coordination with AARP staff, conduct close-out inspections for ASHAA abatement projects funded in previous years, and advise school officials with respect to AHERA requirements. Technical assistance services by Headquarters and Regional staff also continue. EPA is initiating a state cooperative agreement program under the authority of TSCA section 28 to provide start-up funding to assist the states in establishing training and accreditation programs for school asbestos management and abatement professionals, as required by AHERA. Implementation of EPA's 1988 Report to Congress will result in the development in 1990 of a significant program to address the risks posed by asbestos in public buildings. As part of this effort, EPA will develop a new Operations and Maintenance (O&M) Guide for the owners of public and commercial buildings and a model O&M course curriculum. EPA is contributing $2,000,000 towards a research effort conducted by the Health Effects Institute (HEI) to study indoor asbestos exposure levels.

1989 Accomplishments

Accomplishments for this program in 1989 are described under the Asbestos-in-Schools Program Administration and the Asbestos-in-Schools Contractor and Inspector Certification programs.

REGIONAL TOXICS PROGRAM

1991 Program Request

The Agency requests a total of $945,000 supported by 15.1 total workyears for this program, of which $695,000 will be for the Salaries and Expenses appropriation and $250,000 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $263,500 for Salaries and Expenses, an increase of $250,000 for Abatement, Control and Compliance and an increase of 5.0 total workyears. The increase in Salaries and Expenses reflects the increase in total workyears as well as increased costs for current workyears. The increase in Abatement, Control and Compliance reflects a first-time request to produce educational outreach documents directed at the states, the regulated community and the public on the risks posed by toxic substances and EPA's risk reduction activities. The increase in total workyears will support new and expanding implementation needs in the Toxic Substances program.

Emphasis in 1991 will continue to be on enhancing the capabilities of the Regions and states to address problems with polychlorinated biphenyls (PCBs),

asbestos and other toxic pollutants. The national goal for asbestos will continue to be reducing exposure to the public from asbestos in the nation's schools and other public and commercial buildings. The major role for the Regions is in assisting states, localities, and the private sector to assume a greater role in this effort. Extramural funds will provide resources to the Regions to set up workshops, and develop information materials and conduct mass mailings to support outreach and technical assistance activities.

Major goals for PCBs include encouraging state governments to develop in-house expertise on PCB disposal, providing technical assistance to industry for compliance with PCB regulations, supporting implementation of the Notification and Manifesting Rule, increasing state participation in evaluation of site considerations in applications for PCB disposal permits, and facilitating transfer of the PCB clean-up program to the states. Activities in support of these goals include the review and approval of PCB disposal permits for stationary disposal facilities as well as applications for PCB landfills and incinerators, and providing technical and risk assessment support for state and local PCB issues.

1990 Program

In 1990, the Agency is allocating a total of $431,500 supported by 10.1 total workyears, all of which is from the Salaries and Expenses appropriation.

The Regional Program's focus is on providing technical assistance to the states in dealing with PCB problems, and on enhancing state capabilities in developing PCB regulatory programs. The focus of the asbestos program is on schools and other commercial and public buildings, with particular emphasis on strengthening state programs for accreditation of asbestos professionals. In addition, implementation of the Asbestos Ban and Phase-Down Rule requires extensive Regional efforts to explain to industry and the general public the requirements of the rule and its impact.

1989 Accomplishments

No resources were allocated to this program in 1989.

TOXIC SUBSTANCES

OPTS Emergency Planning and Community Right to Know - Title III

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
OPTS - EPCRA					
Salaries & Expenses	$2,903.6	$2,807.4	$4,764.8	$3,871.0	-$893.8
Abatement Control and Compliance	$7,350.9	$11,696.2	$12,237.9	$10,839.7	-$1,398.2
TOTAL	$10,254.5	$14,503.6	$17,002.7	$14,710.7	-$2,292.0
TOTAL:					
Salaries & Expenses	$2,903.6	$2,807.4	$4,764.8	$3,871.0	-$893.8
Abatement Control and Compliance	$7,350.9	$11,696.2	$12,237.9	$10,839.7	-$1,398.2
OPTS - EPCRA TOTAL	$10,254.5	$14,503.6	$17,002.7	$14,710.7	-$2,292.0
PERMANENT WORKYEARS					
OPTS - EPCRA	34.8	56.9	80.9	67.8	-13.1
TOTAL PERMANENT WORKYEARS	34.8	56.9	80.9	67.8	-13.1
TOTAL WORKYEARS					
OPTS - EPCRA	37.8	56.9	83.2	67.8	-15.4
TOTAL WORKYEARS	37.8	56.9	83.2	67.8	-15.4

OPTS Emergency Planning and Community Right to Know

Budget Request

The Agency requests a total of $14,710,700 supported by 67.8 total workyears for 1991, a decrease of $2,292,000 and 15.4 total workyears from 1990. Of this amount, $3,871,000 will be for the Salaries and Expense appropriation and $10,839,700 will be for the Abatement, Control and Compliance appropriation. This represents a decrease of $893,800 in the Salaries and Expenses appropriation and a decrease of $1,398,200 in the Abatement, Control and Compliance appropriation.

1991 Program

The Agency requests a total of $14,710,700 supported by 67.8 total workyears for this program, of which $3,871,000 will be for the Salaries and Expenses appropriation and $10,839,700 will be for the Abatement, Control and Compliance appropriation. This represents a decrease of $893,800 for Salaries and Expenses, a decrease of $1,398,200 for Abatement, Control and Compliance, and a decrease of 15.4 total workyears. The decrease in Salaries and Expenses reflects the completion of start up activities related to processing industry data submissions and providing technical guidance to Regional offices. The decrease in the Abatement, Control and Compliance appropriation is due to productivity savings in forms processing.

In 1991, management of the Toxic Release Inventory (TRI) program will focus on more efficient processing of forms, additional assessment of data quality, and improved accessibility and usability of the National Library of Medicine (NLM) data base. Forms processing will be initiated using an optical character reader which is expected to provide considerable savings in future years. Also included is $1,000,000 in state grants authorized under section 28 of TSCA to help address data quality issues. A National Report, including emissions summaries based on the TRI data, will be published and assistance will be provided to the General Accounting Office (GAO) for their report to Congress as required by the statute. Efforts will continue to refine and revise the TRI list of chemicals by rule. The program will also respond to petitions, process trade secret claims, provide state and regional assistance, maintain the Title III Hotline, conduct public and industry outreach activities, and proceed with the fee waiver program. EPA will complete its review of the 3-year sunset provision,and publish a notice to either remove the provision or amend the reporting form and instructions.

The Regional program will continue outreach activities to encourage comprehensive, accurate, and timely reporting of emissions by industry; to provide TRI information to Regional media offices, states and the public; to encourage the use of the data by Regional programs and state agencies, and to provide training concerning access and use of TRI data. Headquarters and Regional staff will closely coordinate efforts to make the data available to the public. Public outreach efforts will also include interpretating/informing the public concerning chemical releases, informing them on ways to access the data, and facilitating communication with other Regional media offices. Regional

staff will work to decrease emissions through data analysis, working with state and local agencies to identify facilities of concern, and provide pollution prevention information/technology transfer to the regulated industries. Regional staff will also conduct industry audits to identify opportunities for waste minimization and pollution prevention activities, and provide information to state waste minimization and pollution prevention programs.

1990 Program

In 1990, the Agency is allocating a total of $17,002,700 supported by 83.2 total workyears for this program, of which $4,764,800 is from the Salaries and Expenses appropriation and $12,237,900 is from the Abatement, Control and Compliance appropriation.

In 1990, the Emergency Planning and Community Right to Know program is focused on improving data quality while maintaining the quality of the basic TRI data entry and public availability efforts. Data quality efforts include a multi-level approach to identifying and correcting errors in data submissions, and providing approximately 30 states with start up grants to initiate self-perpetuating state data quality assurance programs. To ensure that access to the TRI data base is not limited by economic need and to encourage initial data access, the fee waiver program provides access to the NLM data base to qualified applicants. The program will propose a peak release amendment to the Toxic Chemical Release Reporting rule and revise the list of chemicals covered. A second National Report is in progress which will compare first and second year data and assess the reasons for changes in release data.

In 1990, the Regional EPCRA program addresses 6 major areas: 1) promoting full reporting by all facilities; 2) supporting the use of the TRI data within the Regional office and in the states; 3) supporting the public's use of the data; 4) continuing industry outreach activities; 5) promoting better quality of data; and 6) managing grants to states.

1989 Program

In 1989, the Agency obligated a total of $10,254,500 supported by 37.8 total workyears for this program, of which $2,903,600 was from the Salaries and Expenses appropriation and $7,350,900 was from the Abatement, Control and Compliance appropriation.

In 1989, the section 313 TRI program was fully implemented for the first time. The major focus was on receiving, storing and processing the toxic release reports and responding to 10 petitions to add or delete chemicals from the reporting list submitted in 1988 and 1989. The data were made available to the public through the National Library of Medicine (NLM) data base. Data quality efforts included site visits and technical audits to determine the reasonableness of industry release estimates. A pilot state grant program was initiated to provide start up grants to support data quality assessment and data management activities at the state level. A National Report was released which provided general interpretation of the TRI data base to the public. A waste reduction data analysis was undertaken to parallel the National Report, comparing section 313 data with Resource Conservation and Recovery Act (RCRA) data. Work on a peak release rule amendment was initiated and a proposed rule to add ten chemicals to the TRI list was published. A fee waiver pilot program began which waived

fees for individuals or organizations meeting specified criteria with respect to their use of the NLM TRI data base.

During 1989, the Regions focused on outreach activities, information dissemination, training, compliance activities, and intra-Regional coordination. Efforts focused on facilities subject to reporting requirements for the first time due to decreasing reporting thresholds and supplier notification requirements.

Enforcement

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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TOXIC SUBSTANCES
Toxic Substances Enforcement

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
PROGRAM						
Toxic Substances Enforcement						
Salaries & Expenses		$8,004.4	$8,302.9	$8,362.8	$9,386.3	$1,023.5
Abatement Control and Compliance		$1,984.1	$2,743.0	$2,708.1	$2,884.3	$176.2
	TOTAL	$9,988.5	$11,045.9	$11,070.9	$12,270.6	$1,199.7
Toxic Substances Enforcement Grants						
Abatement Control and Compliance		$2,102.1	$3,150.5	$3,110.3	$5,100.0	$1,989.7
	TOTAL	$2,102.1	$3,150.5	$3,110.3	$5,100.0	$1,989.7
TOTAL:						
Salaries & Expenses		$8,004.4	$8,302.9	$8,362.8	$9,386.3	$1,023.5
Abatement Control and Compliance		$4,086.2	$5,893.5	$5,818.4	$7,984.3	$2,165.9
Toxic Substances Enforcement	TOTAL	$12,090.6	$14,196.4	$14,181.2	$17,370.6	$3,189.4
PERMANENT WORKYEARS						
Toxic Substances Enforcement		166.8	183.0	175.5	187.9	12.4
TOTAL PERMANENT WORKYEARS		166.8	183.0	175.5	187.9	12.4
TOTAL WORKYEARS						
Toxic Substances Enforcement		177.9	183.0	182.8	187.9	5.1
TOTAL WORKYEARS		177.9	183.0	182.8	187.9	5.1

TOXIC SUBSTANCES

Toxic Substances Enforcement

Budget Request

The Agency requests a total of $17,370,600 and 187.9 total workyears for 1991, an increase of $3,189,700 and 5.1 total workyears from 1990. Of the request, $9,386,300 will be for the Salaries and Expenses appropriation, and $7,984,300 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $1,023,500 in the Salaries and Expenses appropriation, and an increase of $2,165,900 in the Abatement, Control and Compliance appropriation.

TOXIC SUBSTANCES ENFORCEMENT

1991 Program Request

The Agency requests a total of $12,270,600 and 187.9 total workyears for this program, of which $9,386,300 will be for the Salaries and Expenses appropriation and $2,884,300 will be for the Abatement, Control, and Compliance appropriation. This represents an increase of $1,023,500 for Salaries and Expenses, an increase of $176,200 for Abatement, Control and Compliance and an increase of 5.1 total workyears. The increase in Salaries and Expenses reflects increased personnel costs as well as the increase in workyears. The increases in total workyears and Abatement, Control and Compliance will support efforts in the regions to strengthen the role of states in regulating toxic substances.

In 1991, Regional personnel will conduct compliance inspections and provide case development specifically targeted at polychlorinated biphenyl (PCB) disposal sites and broker/transporter/storer facilities, while continuing to emphasize asbestos inspections at local education agencies or asbestos contractors under AHERA. The Regions will also conduct some compliance inspections under existing Toxic Substances Control Act rules, although many PCB inspections and most asbestos compliance inspections will be conducted either under contract or through cooperative enforcement agreements with state agencies.

Regional staff will participate in the laboratory data integrity program by conducting good laboratory practices (GLP) inspections at laboratories that perform toxic substances testing. The Regional offices will also conduct inspections in support of Section 5 new chemical regulations and Section 8 reporting rules. It is anticipated that new programs for monitoring compliance with new Section 6 regulations on asbestos and hexavalent chromium will also be initiated.

The increase of 5.1 total workyears will support expanding both the number of states with toxics enforcement programs and the number of state authorities regulating toxic substances. Guidance will be provided to the states on the development of state enforcement infrastructures and legislation and associated tracking of compliance activities and data.

Headquarters manages the national toxic substances enforcement program through guidance to and periodic reviews of Regional programs, including on-site program evaluations. Headquarters also manages a cooperative agreement with the American Association of Retired Persons (AARP) to conduct compliance monitoring inspections under the asbestos-in-schools rule, and exercises overall authority in conducting the Agency's laboratory data integrity program for toxic substances. EPA will continue to conduct full-scale audits of completed test studies submitted to the Agency, and inspections of testing laboratories to verify compliance with good laboratory practices. Both the Regions and Headquarters will also prepare and issue notices of noncompliance and civil administrative complaints and will provide technical assistance and support as necessary to the Office of Enforcement and Compliance Monitoring (OECM) in the prosecution of civil and criminal cases.

Other Headquarters activities include managing and monitoring contracts which provide assistance in priority compliance areas. The priority areas are: sample analysis for PCBs, asbestos, and Section 5 chemicals; inspection support for the section 6 existing chemicals compliance program; case processing support for TSCA subpoena/investigatory reviews and TSCA enforcement reviews, and the development of program guidance and summary materials to assist Regions and states in understanding priorities and carrying out necessary compliance activities.

1990 Program

In 1990, the Agency is allocating a total of $11,070,900 and 182.8 total workyears for this program, of which $8,362,800 is from the Salaries and Expenses appropriation and $2,708,100 is from the Abatement, Control, and Compliance appropriation.

The Regions are conducting inspection programs to determine compliance with TSCA rules. The Regions are also providing assistance to firms that are either seeking to comply voluntarily with TSCA requirements, or that wish to take remedial actions to achieve compliance. The Regional offices are preparing and issuing notices of noncompliance and civil administrative orders, and developing and prosecuting cases when compliance is not achieved. Oversight of the cooperative enforcement agreement program, review and approval of PCB landfills and unique-design stationary PCB incinerators, and PCB site disposal monitoring are also responsibilities of the Regional offices.

In addition to providing overall program guidance and management, Headquarters is managing the laboratory data integrity program and conducting audits of test studies submitted to the Agency under TSCA testing rules. Headquarters staff are managing the AARP cooperative agreement that supports compliance monitoring inspections under the asbestos-in-schools program and managing the various other compliance assistance contracts. Headquarters is also participating in regulation development directed by the Office of Toxic Substances, and preparing enforcement response policies and compliance monitoring strategies for newly developed regulations.

1989 Accomplishments

In 1989, the Agency obligated a total of $9,988,500 supported by 177.9 total workyears for this program, of which $8,004,400 was from the Salaries and Expenses appropriation and $1,984,100 was from the Abatement, Control and Compliance appropriation.

In 1989 the program conducted compliance inspections, data processing, and scientific review of data audits. The Regional offices conducted compliance inspections in support of existing TSCA rules, placing particular emphasis upon PCB and asbestos-in-schools inspections under Section 6. Upon detection of violations, including those originating from state-conducted inspections, the Regional staff developed and prosecuted enforcement cases.

TOXIC SUBSTANCES ENFORCEMENT GRANTS

1991 Program Request

The Agency requests a total of $5,100,000 for this program, all of which will be for the Abatement, Control and Compliance appropriation. This represents an increase of $1,989,700 to allow an additional 7 states to participate in the PCB and asbestos enforcement cooperative agreement program, to strengthen state Toxic Substances enforcement authorities, and to conduct additional inspections in support of new TSCA rules. Currently, thirty states participate in this program, which emphasizes compliance monitoring of chemical control rules, particularly for PCBs and asbestos. The increase reflects the program's commitment to building state capabilities so that the states can assume more responsibility for the program. An increase in this Federal grant program will produce significantly greater compliance coverage, through an additional 1,800 compliance inspections in critical program areas, including inspections for new hexavalent chromium regulations.

1990 Program

In 1990, the Agency is allocating a total of $3,110,300 for this program, all of which is from the Abatement, Control and Compliance appropriation. These funds support state-conducted toxic substances compliance monitoring programs in 30 states. These state programs focus upon Section 6 chemical control rules, particularly PCB and asbestos compliance monitoring.

1989 Accomplishments

In 1989, the Agency obligated a total of $2,102,100 for this program, all of which was from the Abatement, Control and Compliance appropriation. These funds supported state cooperative enforcement agreement programs in 23 states. These states conducted 1,100 asbestos-in-schools inspections and 800 PCB inspections.

TOXIC SUBSTANCES

OPTS Emergency Planning and Community Right to Know Enforcement

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
OPTS - EPCRA Enforcement					
Salaries & Expenses	$511.3	$618.7	$629.7	$580.8	-$48.9
Abatement Control and Compliance	$1,472.7	$2,602.3	$2,562.9	$2,474.9	-$88.0
TOTAL	$1,984.0	$3,221.0	$3,192.6	$3,055.7	-$136.9
TOTAL:					
Salaries & Expenses	$511.3	$618.7	$629.7	$580.8	-$48.9
Abatement Control and Compliance	$1,472.7	$2,602.3	$2,562.9	$2,474.9	-$88.0
OPTS - EPCRA Enforcement TOTAL	$1,984.0	$3,221.0	$3,192.6	$3,055.7	-$136.9
PERMANENT WORKYEARS					
OPTS - EPCRA Enforcement	11.0	11.0	10.9	11.0	.1
TOTAL PERMANENT WORKYEARS	11.0	11.0	10.9	11.0	.1
TOTAL WORKYEARS					
OPTS - EPCRA Enforcement	11.7	11.0	11.0	11.0	0.0
TOTAL WORKYEARS	11.7	11.0	11.0	11.0	0.0

OPTS Emergency Planning and Community Right to Know Enforcement

Budget Request

The Agency requests a total of $3,055,700 supported by 11.0 total workyears for 1991. Of this amount, $580,800 will be for the Salaries and Expenses appropriation and $2,474,900 will be for the Abatement, Control and Compliance appropriation. This represents a decrease of $48,900 in the Salaries and Expenses appropriation, a decrease of $88,000 in the Abatement, Control, and Compliance appropriation, and no change in total workyears.

OPTS EPCRA ENFORCEMENT

1991 Program Request

The Agency requests a total of $3,055,700 supported by 11.0 total workyears for this program, of which $580,800 will be for the Salaries and Expenses appropriation, and $2,474,900 will be for the Abatement, Control, and Compliance appropriation. This represents a decrease of $48,900 for Salaries and Expenses, a decrease of $88,000 for Abatement, Control, and Compliance, and no change in total workyears. The decreases reflect the completion of pollution prevention projects and other Congressional initiatives that were included in the FY 1990 budget, as well as efficiencies in forms processing.

In 1991, contractor personnel will inspect chemical facilities that use, manufacture or process potentially harmful chemicals to verify that such facilities observe the reporting requirements of the Emergency Planning and Community Right to Know Act. Section 313 of EPCRA requires facilities to submit annual toxic chemical release forms to EPA and the state in which the facility is located. Such forms list amounts of chemicals released into the environment during the preceding year. Since many such facilities are also subject to the reporting requirements of Sections 5, 8 and 13 of the Toxic Substances Control Act (TSCA), the Regions will integrate EPCRA inspections with TSCA recordkeeping and reporting inspections where possible. The Regions will develop appropriate enforcement actions in response to any violations of EPCRA detected during these inspections.

In 1991, Headquarters staff will review and update enforcement response policies, compliance monitoring strategies, procedural manuals and guidance relating to EPCRA. Headquarters personnel will also conduct case development activities and will continue to oversee and provide assistance for Regional case development. Other Headquarters activities will include participating in rulemaking, and providing training to Regional and contractor staff.

Headquarters will also manage a grant with the American Association of Retired Persons (AARP) to conduct compliance inspections and provide paralegal case development under EPCRA. Such contractor support enables the Agency to reach a broader portion of the regulated community without increasing Federal staff. Headquarters will also continue ADP support for an "expert" computer system to target compliance inspections. The computer system will cross-check production and facility profile data to identify facilities that may be

noncompliers under EPCRA reporting requirements. Facilities with the highest potential for failure to submit reports will be targeted for inspections. ADP support will also enable Regions to monitor inspections and cases to most efficiently manage the program.

In 1991, the Agency will continue to emphasize the quality and accuracy of data received from the reporting companies by supporting contract inspections for data quality compliance. Also, Headquarters staff will complete the development and in-field application of an automated risk reduction inspection targeting system.

The Agency will undertake a pilot project to incorporate source reduction into settlements with EPCRA violators. Headquarters will identify appropriate guidelines for establishing and measuring documentable emissions reductions in exchange for remitted penalties.

1990 Program

In 1990, the Agency is allocating a total of $3,192,600 supported by 11.0 total workyears for this program, $629,700 of which is from the Salaries and Expenses appropriation and $2,562,900 of which is from the Abatement, Control, and Compliance appropriation.

The Regions are providing compliance assistance to the regulated community, the states, and local authorities. Compliance assistance includes responding to inquiries from individual facilities or the regulated industry as a whole on enforcement requirements, providing training in compliance matters to industry, state or local representatives, and reviewing and implementing enforcement policies, strategies and inspection procedures. The Regions are also conducting compliance inspections, some of which are integrated with other inspections under TSCA Sections 5, 8 and 13. The Regions are also implementing case development as violations are detected.

In 1990, Headquarters personnel are developing enforcement response policies and compliance monitoring strategies to accompany final rules developed by the Office of Toxic Substances under EPCRA, and providing training for regional personnel. Headquarters staff participate in regulation development to assure the enforceability of new rules and to develop rules of practice. Other projects include developing guidance documents, inspection guidelines, procedural manuals and other materials to implement specific program activities. Finally, staff are also conducting case development activities, and providing oversight and assistance in regional case development. Considerable attention to and oversight of case development is critical for a newly enforceable program to provide program-wide consistency among cases and to make precedent-setting determinations in cases of first impression, thereby assuring the integrity of the national compliance monitoring effort.

Headquarters is also providing oversight of the grant to the AARP to conduct inspections under EPCRA.

1989 Accomplishments

In 1989, the Agency obligated a total of $1,984,000 supported by 11.7 total workyears for this program. Total dollars included $511,300 from the Salaries and Expenses appropriation and $1,472,700 from the Abatement, Control, and Compliance appropriation.

During 1989, the Regions provided compliance assistance to the regulated community, the states, and local authorities and conducted compliance inspections. Headquarters personnel developed enforcement response policies and compliance monitoring strategies corresponding to the legislation and rules, and provided training for Regional personnel. Headquarters staff participated in regulation development and issued guidance documents, inspection guidelines, procedural manuals and other materials to implement specific program activities. Regional and AARP personnel combined produced 768 inspections in support of EPCRA TRI reporting provisions in 1989.

10. Energy

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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ENERGY

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
APPROPRIATION					
Salaries & Expenses	$4,503.2	$3,056.5	$3,200.3	$2,170.8	-$1,029.5
Research & Development	$49,975.7	$30,424.3	$28,971.6	$12,085.9	-$16,885.7
TOTAL, Energy	$54,478.9	$33,480.8	$32,171.9	$14,256.7	-$17,915.2
PERMANENT WORKYEARS	62.8	52.4	51.8	30.4	-21.4
TOTAL WORKYEARS	67.2	52.4	51.8	30.4	-21.4
OUTLAYS	$57,314.6	$45,735.0	$45,527.6	$28,502.8	-$17,024.8
AUTHORIZATION LEVELS	Authorization for Energy is under the Environmental Research, Development and Demonstration Act which expired September 30, 1981. Reauthorization is pending.				

ENERGY

OVERVIEW AND STRATEGY

The Energy program provides scientific information necessary to assess (a) environmental impacts from the nation's energy sector (e.g. utilities, industry, and automobiles) and (b) potential controls to mitigate environmental effects. Current Energy program activities are focused on two energy/environmental related issues:

1. causes and effects of acid deposition and
2. assessment of retrofit boiler technology which can reduce air emissions that create acid deposition.

Acid Deposition

The National Acid Precipitation Assessment Program (NAPAP), mandated by the Energy Security Act of 1980, will be completed in 1990. NAPAP's objective to provide policy makers with credible scientific data on the causes and effects of acid deposition should be met. Policy makers will have the 1990 NAPAP Final Assessment Report to Congress to help them assess potential environmental effects from changes in air emissions and appropriate controls to mitigate any adverse environmental effects.

With the issuance of the 1990 NAPAP Assessment, acid rain research will be reduced in 1991. This reduction represents completion of research on: causes of acid deposition; aquatic, terrestrial, and material effects; and potential control technologies.

In 1991, research will continue long-term monitoring, modeling, technology demonstration and emission activities on air emissions related to acid deposition. Research will be focused in three major areas. First, research will estimate air emissions from man-made sources by (a) improving air emission inventories and (b) applying models specific to major source-sectors. Second, research will better understand atmospheric processes through applications of (a) the Regional Acid Deposition Monitoring (RADM) model to assess different control scenarios and (b) refining RADM to describe deposition in urban areas and sensitive receptor regions. Finally, research will establish routine deposition monitoring data on dry atmospheric deposition of chemical species of interest (e.g., SO_2, NO_2, O_3, and particulate sulfate and nitrate).

LIMB Control Technology

The LIMB (Limestone Injection Multistage Burner) research program is developing and evaluating air emission control technology that will remove sulfur oxides (SOx) and nitrogen oxides (NOx) from flue gases of coal-fired boilers. In 1991, LIMB research will continue testing a commercial-scale demonstration of a tangentially-fired LIMB technology in Yorktown, Va. This project is jointly funded by the Federal government and the electrical power generating industry.

Consulting Services

Consulting services are used on an intermittent basis to supplement technical expertise in the Acid Deposition Program.

Research and Development

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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ENERGY
Energy Research

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Acid Deposition					
Salaries & Expenses	$3,458.6	$1,984.8	$2,050.3	$864.6	-$1,185.7
Research & Development	$47,573.5	$28,028.6	$26,673.0	$9,692.2	-$16,980.8
TOTAL	$51,032.1	$30,013.4	$28,723.3	$10,556.8	-$18,166.5
Environmental Engineering & Technology - Energy					
Salaries & Expenses	$1,044.6	$1,071.7	$1,150.0	$1,306.2	$156.2
Research & Development	$2,402.2	$2,395.7	$2,298.6	$2,393.7	$95.1
TOTAL	$3,446.8	$3,467.4	$3,448.6	$3,699.9	$251.3
TOTAL:					
Salaries & Expenses	$4,503.2	$3,056.5	$3,200.3	$2,170.8	-$1,029.5
Research & Development	$49,975.7	$30,424.3	$28,971.6	$12,085.9	-$16,885.7
Energy Research TOTAL	$54,478.9	$33,480.8	$32,171.9	$14,256.7	-$17,915.2
PERMANENT WORKYEARS					
Acid Deposition	46.0	33.6	33.4	12.0	-21.4
Environmental Engineering & Technology - Energy	16.8	18.8	18.4	18.4	0.0
TOTAL PERMANENT WORKYEARS	62.8	52.4	51.8	30.4	-21.4
TOTAL WORKYEARS					
Acid Deposition	49.7	33.6	33.4	12.0	-21.4
Environmental Engineering & Technology - Energy	17.5	18.8	18.4	18.4	0.0
TOTAL WORKYEARS	67.2	52.4	51.8	30.4	-21.4

ENERGY

Principal Outputs by Objective

Objective 1: Estimate Emissions from Man-made Sources (Acid Deposition)

1991:
- Development of improved emissions inventory methodologies and enhanced estimation methodologies with improved speciation, temporal and spatial estimates (Monitoring).
- Updating and maintenance of projection models (Monitoring).
- Improve capability for collecting and estimating emissions data at sources, States, and Regions (Engineering).
- Collect fuel use and emissions data for major electric utility sources (Engineering).
- Maintain emission forecasting model to support to the proposed Clean Air Act legislation (Engineering).

1990:
- Enhance air source emissions methodology and procedures (Engineering).
- Report on sensitivity testing of the advanced utility simulation and industrial emissions models (Engineering).
- Provide control technology assessments.

1989:
- Report on and provide a computer tape of the 1985 SO_2, NOx, VOCs, and alkaline material air emissions inventory (Engineering).
- Release updated versions of the advanced utility emissions simulation model and the industrial emissions model (Engineering).

Objective 2: Understand Atmospheric Processes (Acid Deposition)

1991:
- Application of a fully operation Eulerian regional acid deposition modeling system (RADM/EM) to analyze control scenarios (Monitoring).
- Evaluate Regional Acid Deposition Model (RADM) using 1990 surface and aircraft monitoring data (Monitoring).

1990:
- Evaluate the Regional Acid Deposition Model (RADM) using surface and aircraft monitoring data (Monitoring).

1989:
- State-of-science report on RADM with user's guide (Monitoring).

Objective 3: Establish Deposition Monitoring Data Bases (Acid Deposition)

1991:
- Dry deposition data report based on the continued operation of the National Dry Deposition Network (Monitoring).

- o Evaluate temporal and spatial trends in Acid Deposition (Monitoring).

1990: o Report on temporal and spatial trends in acid deposition (Monitoring).

1989: o Expand dry deposition monitoring network to 52 sites. First year data provided by 52 sites (Monitoring).

Objective 4: Understand and Quantify Aquatic Effects (Acid Deposition)

1990: o Report on Direct/Delayed Response Program predictions on the Mid-Appalachian region (Monitoring).

o Report on temporal and chemical variability in lakes within the Northeastern U.S. (Monitoring).

1989: o Report on Direct/Delayed Response Program predictions for the Northeast and Southern Blue Ridge province Level III (Monitoring).

o Regional case studies of surface water response characteristics (Monitoring).

Objective 5: Develop and Evaluate LIMB Control Technology (Engineering)

1991: o Continue installation of the tangentially-fired LIMB demonstration (Engineering).

1990: o Final design report on the tangentially-fired LIMB demonstration (Engineering).

o Report on pilot-scale evaluation of the E-SOx process utilizing recycled sorbent (Engineering).

1989: o Report on a commercial-scale demonstration of the wall-fired LIMB technology on controlling SO_2 and NOx air emissions from coal-fired utility boilers (Engineering).

o Report on fundamental studies to enhance the LIMB process to control SO_2 air emissions in retrofit coal-fired applications (Engineering).

ENERGY

Energy Research

Budget Request

The Agency requests a total of $14,256,700 supported by 30.4 total workyears for 1991, a decrease of $17,915,200 and 21.4 total workyears from 1990. Of the request, $2,170,800 will be for the Salaries and Expenses appropriation and $12,085,900 will be for the Research and Development appropriation, a decrease of $1,029,500 and $16,885,700, respectively.

Program Objectives

The goal of multimedia energy research and development program is to provide EPA program and Regional offices; Federal, State, and local governments; and industry with the scientific information necessary to help guide the development and utilization of energy resources in an environmentally acceptable manner. This scientific information is obtained through the Acid Deposition research program which was established in response to the Energy and Security Act of 1980 and a control technology program which is investigating retrofit boiler technologies such as the Limestone Injection Multistage Burner (LIMB) process. Acid deposition research is coordinated through the Interagency Task Force of the National Acid Precipitation Assessment Program (NAPAP), chaired by the EPA Administrator, which is responsible for preparing the 1990 Final NAPAP Assessment Report to Congress. LIMB research is conducted in conjunction with the Department of Energy, which is responsible for the Federal Clean Coal Technology Program. The following objectives define the Agency's energy research and development activities:

Objective 1. Estimate Emissions from Man-made Sources. This research will improve the Agency's understanding of the amount of acidic pollutants formed as a result of man's activities.

Objective 2. Understand Atmospheric Processes. This research addresses the atmospheric processes involved in acid deposition; examines and predicts the transport, chemical transformation, and deposition processes of acidic air masses.

Objective 3. Establish Deposition Monitoring Data Bases. This research will quantify wet and dry acid deposition levels to establish deposition trends, provide vital inputs to effects studies, and provide precise information for statistical analyses on source/receptor relationships.

Objective 4. Understand and Quantify Aquatic Effects. This research will quantify the impacts of acidification on representative aquatic ecosystems.

Objective 5. Develop and Evaluate LIMB Control Technology. This research will develop and evaluate air emission control technologies that will remove sulfur oxides (SOx) and nitrogen oxides (NOx) from flue gases of pulverized coal-fired boilers.

ACID DEPOSITION

1991 Program Request

The Agency requests a total of $10,556,800 supported by 12.0 total workyears for this research, of which $864,600 will be for the Salaries and Expenses appropriation and $9,692,200 will be for the Research and Development appropriation. This represents a decrease of $1,185,700 in the Salaries and Expenses appropriation, $16,980,800 in the Research and Development appropriation, and a decrease 21.4 total workyears. This reduction primarily reflects the completion of the NAPAP Assessment, and the completion of nearly all of the effects research in the acid deposition program.

Estimate Emissions from Man-made Sources. The main components of this research are directed towards support of the President's proposed Clean Air Act Amendments. Research will include the development of an improved methodology for estimating emissions, quality assurance, and maintenance of emission forecast models.

Understand Atmospheric Processes. This program will apply a fully operational Regional Acid Deposition Model/Emissions Model (RADM/EM) modeling system to analyze and evaluate control scenarios, and perform source/receptor analyses in support of the President's Clean Air Act Amendments.

Establish Deposition Monitoring Data Bases. This research will quantify wet and dry acid deposition levels to establish deposition trends.

Understand and Quantify Aquatic Effects. The Aquatic Effects Program will complete work on the Watershed Manipulation Program and publish results of Aquatic research initiated in previous years.

1990 Program

In 1990, the Agency is allocating a total of $28,723,300 supported by 33.4 total workyears for this research, of which $2,050,300 is from the Salaries and Expenses appropriation and $26,673,000 is from the Research and Development appropriation.

These resources will be used to complete the work required in support of the 1990 NAPAP Integrated Assessment and production of SOS/T reports for NAPAP in all program areas. This research will include the completion of a 1984 emissions data base; improving current area source methodologies; application of the completed AUSM model; evaluation of the RADM/EM modeling system; completion of a successful meteorological seasonal aggregation scheme; operation of the wet deposition and dry deposition monitoring network and completion of methods development; and completion of the Episodic Research program, the direct delayed response programs and the atmospheric exposure to forests.

1989 Accomplishments

In 1989, the Agency obligated a total of $51,032,100 supported by 49.7 total workyears for this research, of which $3,458,600 was from the Salaries and Expenses appropriation and $47,573,500 was from the Research and Development appropriation.

The atmospheric processes program carries out a successful first intensive field program involving aircraft research components from the Federal Republic of Germany. The goals of this program, in the collection of a data base for RADM evaluation, were exceeded. A 49 station dry deposition network was installed, and successfully operated. A research grade emissions inventory for the year 1985 was released in final version. Reports were compiled and released on the Direct/Delayed Response Project for the Northeast and Southern Blue Ridge Provence and on the current status of fish communities in the upper Peninsula of Michigan. A synthesis of the response of seedlings to sulfur, nitrogen and associated pollutants was completed. Major progress was made in developing a NAPAP Assessment Plan and in submitting review drafts.

ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

1991 Program Request

The Agency requests a total of $3,699,900 supported by 18.4 total workyears for this research, of which $1,306,200 will be for the Salaries and Expenses appropriation and $2,393,700 will be for the Research and Development appropriation. This represents increases of $156,200 in Salaries and Expenses and $95,100 in the Research and Development appropriation. The increase reflects increased personnel, support, and research costs.

Develop and evaluate LIMB Control Technology. Research will be conducted in two areas: (1) laboratory, bench, and pilot demonstration of innovative SOx/NOx technologies; and (2) commercial scale demonstration of the tangentially-fired boiler technology. Laboratory development will involve work in improved sorbents, reactivation of sorbents (the ADVACATE process), humidification, precipitators and general support for the LIMB processes. The research program office will begin the initial work on the tangentially-fired boiler LIMB demonstration at Yorktown, VA. The LIMB commercial demonstration program is being funded jointly by the Federal government and industry.

1990 Program

In 1990, the Agency is allocating a total of $3,448,600 and 18.4 total workyears for this research, of which $1,150,000 is from the Salaries and Expenses appropriation and $2,298,600 is from the Research and Development appropriation.

The research program office will complete initial work on support modeling, combustion testing, and preliminary design for the tangentially-fired boiler LIMB demonstration at Yorktown, VA. This large scale demonstration is important because approximately 40% of U.S. utility boilers are tangentially fired. The program will also complete the final report on the wall-fire boiler LIMB demonstration at Edgewater, Ohio. The LIMB commercial-scale demonstrations are jointly funded by the Federal government and the utility industry.

1989 Accomplishments

In 1989, the Agency obligated a total of $3,446,800 supported by 17.5 total workyears for this research, of which $1,044,600 was from the Salaries and Expenses appropriation and $2,402,200 was from the Research and Development appropriation.

In 1989, the Agency completed testing of the wall-fired LIMB technology commercial scale demonstration at Edgewater, Ohio.

11. Management and Support

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MANAGEMENT AND SUPPORT

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
APPROPRIATION					
Salaries & Expenses	$348,606.1	$380,281.1	$374.706.0	$435,695.7	$60,989.7
Office of Inspector General		$21,085.4	$20,845.4	$25,027.8	$4,182.4
Abatement Control and Compliance	$12,737.4	$22,061.2	$22,477.4	$16,337.9	-$6,139.5
TOTAL, Management and Support	$361,343.5	$423,427.7	$418,028.8	$477,061.4	$59,032.6
PERMANENT WORKYEARS	2,700.2	3,022.9	2,943.6	3,209.2	265.6
TOTAL WORKYEARS	2,894.2	3,002.9	3,050.7	3,209.2	158.5
OUTLAYS	$359,827.4	$396,256.0	$394,460.5	$456,922.8	$62,462.3
AUTHORIZATION LEVELS	Authorization is by virtue of the Appropriation Act.				

MANAGEMENT AND SUPPORT

OVERVIEW AND STRATEGY

Management and Support provides executive direction and policy oversight for all Agency programs, as well as those administrative and support services that are not assigned to a specific program. Management and Support services include providing quality legal services, promoting technically and economically defensible regulatory and policy alternatives, enhancing the public's perception and understanding of the Agency's goals, managing for environmental results, and pursuing a focused human resources management effort to build a skilled career environmental workforce.

The major components of this medium are Program Management, Agency Management, Regional Management, and Support Costs.

Program Management includes policy development, program development and oversight, and the associated management activities for the Agency's environmental program offices. These include the Offices of Air and Radiation, Water, Enforcement and Compliance Monitoring, International Activities, Pesticides and Toxic Substances, General Counsel, Research and Development, and Solid Waste and Emergency Response.

Agency Management includes Agencywide management functions and policy activities. Agency Management involves the following activities:

Policy direction, through the Executive Offices at Headquarters, consists of the Administrator and Deputy Administrator and their immediate staffs, Regional Operations and State/Local Relations, Executive Support, Administrator's Representation Fund, Civil Rights, Science Advisory Board, Administrative Law Judges, and Small and Disadvantaged Business Utilization, Cooperative Environmental Management, Congressional and Legislative Affairs, and Communications and Public Affairs. The responsibilities of the Executive Offices include improving communications between Headquarters and the Regions, ensuring an effective Congressional liaison, and interpreting the Agency's priorities and programs.

International Activities are performed by the following components: International Cooperation Division, International Issues Division, and Program Operations Division. These divisions will address global environmental issues.

Policy, Planning and Evaluation is organized into the following components: Program Management, the Offices of Policy Analysis, Regulatory Management and Evaluation and Pollution Prevention as well as the Pollution Prevention Program (State grants). Together they will further develop pollution prevention efforts through Agency policy and through working with state programs and other levels of government.

Legal services for litigation in which the Agency is a defendant are provided to Agency programs by the General Counsel in Headquarters and by a Regional Counsel in each Regional office. The Office of General Counsel (OGC) provides legal services and advice to the Administrator and Agency managers. OGC, in cooperation with the Department of Justice, represents the Agency in all

legal matters in which the Agency is a defendant. Additionally, OGC reviews proposed actions, decisions, and regulations to assure that they are legally defensible.

Inspector General activities include audits and investigations of Agency activities to promote economy, efficiency and effectiveness, and to prevent and detect fraud, waste, and abuse in EPA programs and operations.

Administration and Resources Management provides management activities in Headquarters, as well as administrative services to all program operations located in Cincinnati, Ohio and Research Triangle Park, North Carolina. The office has several components: Program Management, Financial Management, Comptroller, Organization and Health Services, Contracts and Grants, Facilities and Management Services, Information Systems and Services, and Human Resources Management.

Regional Management includes the centralized management and administrative functions performed in each Regional office. The Regional elements cover the Regional and Deputy Regional Administrators, their immediate staffs, and Regional staff for public affairs, congressional and intergovernmental relations, and civil rights. Other activities include budget development and execution, preparation of Regional operating plans, legal services, program evaluation, financial and personnel management, information management, administration of Freedom of Information Requests, and facilities and property management.

Support Costs include the costs of general support services for all Agency programs. These costs represent:

o Office and building services, such as library services, commercial telephone use, printing and copying, utilities, security, ADP technical support, and custodial and maintenance services for programs located at Headquarters, Research Triangle Park, and Cincinnati;

o Nationwide costs, such as facility rental costs, centralized data processing, U. S. Postal Services charges, Federal Telecommunications System (FTS) charges, unemployment and workmen's compensation, and health and safety costs for all Agency programs in all locations;

o Office and building services for laboratories and field stations operated by the Office of Air and Radiation, Research and Development, and Pesticides and Toxic Substances; and

o Common services in Regional offices, such as supplies and equipment, commercial telephones, printing, facilities operations and maintenance, library services, and mini-computer operations.

Program Priorities

Priorities for the Executive Offices in 1991 will include: continued emphasis on enforcement and compliance efforts for both environmental and civil rights regulations; stronger support from Headquarters and Regions to small, minority, and women's environmental businesses; bringing greater scientific credibility to regulatory decision-making through an emphasis on reviews by the Science Advisory Board; more effective communication between Headquarters and

the Regions; and continued clear interpretation of EPA's programs and priorities; increased Agency effectiveness by improving Congressional liaison; continued effective liaison with state and local governments; and stronger outreach programs with the private and public sectors and involve citizen participation.

The Office of General Counsel will continue to provide legal advice and counsel the Agency's top management and media program offices concerning legal interpretation of EPA-administered statutes, other applicable laws, and on such matters as personnel, grants, and contracts. Additionally, the Office of General Counsel will continue to represent the Agency in all major regulatory actions, and ensure that legal errors are avoided and legal positions are presented in the most persuasive manner.

The Office of International Activities will play a primary role in advising the Administrator on international environmental issues and will exercise lead responsibility within EPA for devising strategies to advance the U. S. position. It will continue to manage, direct and evaluate bilateral activities ranging from Canada and Mexico to Eastern Europe, the USSR and developing countries; and will participate actively with multilateral organizations on a host of issues such as global climate change, international development and lending policies, and technology transfer to developing countries.

The Office of Policy, Planning and Evaluation will exercise a leadership role in multi-media pollution prevention by developing Agency policy, supporting state programs, and providing incentives for industry, consumers, and all levels of government to reduce or eliminate residuals before they become "pollutants". It also will have lead responsibility for important aspects of the global climate change program working closely with the Offices of Research and Development, Air and Radiation, and International Activities as well as with other agencies and international organizations. Four-year, media-specific strategic plans will be expanded to include cross-media programs. Cooperative efforts with the Departments of Agriculture, Interior and Energy will focus on pollution prevention measures, protecting ecological values, and energy conservation.

The Office of Inspector General will continue to emphasize internal and management audits to improve the economy, efficiency of EPA programs and provide audit coverage to EPA programs and operations which have received little or no audit coverage in the past. It will provide limited audit coverage for the close-out of wastewater treatment construction grants and expand audit coverage of EPA contracts and other grants. The office will continue its investigation of antitrust activities and other construction-related fraud and will aggressively pursue new initiatives to ferret out fraud in EPA-funded contracts. It will further its efforts in fraud prevention by publicizing its activities to EPA employees, identifying areas sensitive to fraud, and developing new fraud detection tools and methods.

The Office of Administration and Resources Management will continue to assure a strong system of financial internal controls, including work toward integration and improvement of all agency financial management and accounting systems; continue developing a program for better information management planning, particularly between EPA and states; continue improvement in contracts and grants administration; continue to provide a strong health and safety program; pursue a focused human resources management effort to build a skilled

career environmental workforce; continue to improve working conditions at the Headquarters facilities; and continue to provide essential administrative and support services to enhance the Agency's ability to fulfill its various mandates.

In the Regional management areas, the Agency will continue its commitment to strengthen Regional environmental programs and maintain strong Regional planning and management efforts. Development of State/EPA data management plans to improve efficiency and reliability of methods for sharing environmental data will receive priority attention.

In Support, the program will continue to provide general support services to Agency programs. This request will also enable the Agency to continue its effort to replace obsolete computers in the Regional offices, as well as cover cost escalations such as rent, telephone, and utility rate increases.

Consulting Services

Management consulting services provide advisory and consulting services in such areas as: management assistance for the design of financial systems, regional management assistance in support of the EPA/State Data Management program and management support of the Agency's public-private partnership initiative. Consulting services also provide scientific data through the following types of analyses; engineering analysis, economic and financial analysis, statistical and technical analyses, technology assessments and environmental/energy implications of global atmospheric changes.

Program Management

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PROGRAM MANAGEMENT

PROGRAM		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
Program Management - Air And Radiation						
Salaries & Expenses		$3,101.0	$2,959.2	$2,934.3	$3,021.3	$87.0
	TOTAL	$3,101.0	$2,959.2	$2,934.3	$3,021.3	$87.0
Program Management - Water						
Salaries & Expenses		$3,096.5	$3,109.1	$2,954.0	$3,065.8	$111.8
	TOTAL	$3,096.5	$3,109.1	$2,954.0	$3,065.8	$111.8
Program Management - Enforcement And Compliance Monitoring						
Salaries & Expenses		$528.7	$714.3	$574.5	$759.6	$185.1
	TOTAL	$528.7	$714.3	$574.5	$759.6	$185.1
Program Management - Pesticides and Toxic Substances						
Salaries & Expenses		$2,861.0	$2,962.1	$2,837.1	$3,216.0	$378.9
	TOTAL	$2,861.0	$2,962.1	$2,837.1	$3,216.0	$378.9
Program Management - General Counsel						
Salaries & Expenses		$482.6	$510.3	$503.4	$544.0	$40.6
	TOTAL	$482.6	$510.3	$503.4	$544.0	$40.6
Program Management - Research & Development						
Salaries & Expenses		$5,708.0	$5,377.9	$6,323.5	$7,026.0	$702.5
	TOTAL	$5,708.0	$5,377.9	$6,323.5	$7,026.0	$702.5
Program Management - Solid Waste and Emergency Response						
Salaries & Expenses		$1,785.3	$1,715.0	$1,691.9	$2,169.8	$477.9
	TOTAL	$1,785.3	$1,715.0	$1,691.9	$2,169.8	$477.9
TOTAL:						
Salaries & Expenses		$17,563.1	$17,347.9	$17,818.7	$19,802.5	$1,983.8
Program Management	TOTAL	$17,563.1	$17,347.9	$17,818.7	$19,802.5	$1,983.8

PROGRAM MANAGEMENT

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PERMANENT WORKYEARS					
Program Management - Air And Radiation	41.8	44.6	44.6	44.6	0.0
Program Management - Water	41.3	45.9	45.9	45.9	0.0
Program Management - Enforcement And Compliance Monitoring	8.2	11.9	10.0	11.0	1.0
Program Management - Pesticides and Toxic Substances	37.9	42.6	42.8	42.8	0.0
Program Management - General Counsel	8.5	10.5	10.5	10.5	0.0
Program Management - Research & Development	64.0	62.4	71.8	71.8	0.0
Program Management - Solid Waste and Emergency Response	28.7	28.0	28.0	28.0	0.0
TOTAL PERMANENT WORKYEARS	230.4	245.9	253.6	254.6	1.0
TOTAL WORKYEARS					
Program Management - Air And Radiation	44.1	44.6	44.6	44.6	0.0
Program Management - Water	45.6	45.9	45.9	45.9	0.0
Program Management - Enforcement And Compliance Monitoring	9.1	11.9	10.0	11.0	1.0
Program Management - Pesticides and Toxic Substances	41.0	42.6	42.8	42.8	0.0
Program Management - General Counsel	8.7	10.5	10.5	10.5	0.0
Program Management - Research & Development	65.9	62.4	71.8	71.8	0.0
Program Management - Solid Waste and Emergency Response	30.3	28.0	28.0	28.0	0.0
TOTAL WORKYEARS	244.7	245.9	253.6	254.6	1.0

MANAGEMENT AND SUPPORT

Program Management

Budget Request

The Agency requests a total of $19,802,500 supported by 254.6 workyears for 1991, an increase of $1,983,800 and an increase of 1.0 total workyears from 1990. All of the request is for the Salaries and Expenses appropriation.

AIR AND RADIATION

1991 Program Request

The Agency requests a total of $3,021,300 supported by 44.6 total workyears for this program, all of which is for the Salaries and Expenses appropriation. This represents an increase of $87,000 from 1990. Air and radiation program management will focus on implementation of the Indoor Radon Abatement Act, the Clean Air Act, the Atomic Energy Act, the Uranium Mill Tailings Radiation Control Act, and the Superfund Amendments and Reauthorization Act, and on development of major policies and decisions related to these acts.

1990 Program

In 1990 the Agency is allocating a total of $2,934,300 supported by 44.6 total workyears for this program, all of which is from the Salaries and Expenses appropriation. This program provides management support for implementation of the Indoor Radon Abatement Act, the Clean Air Act, the Atomic Energy Act, the Uranium Mill Tailings Radiation Control Act, and the Superfund Amendments and Reauthorization Act. Key activities include: executive management, strategic planning, program planning and analysis, resource management, and budget formulation. The program also provides administrative support to Office of Air and Radiation (OAR) components.

1989 Accomplishments

In 1989 the Agency obligated $3,101,000 for this program supported by 44.1 total workyears, all of which was from the Salaries and Expenses appropriation. The program provided executive management, program planning and analysis, and budget and administrative support to OAR offices.

OFFICE OF WATER

1991 Program Request

The Agency requests a total of $3,065,800 supported by 45.9 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $111,800 from 1990 and no change in total workyears. The increase in Salaries and Expenses reflects increased personnel and support costs.

The 1991 request supports the development of national policy and implementation of the national regulatory programs for the Water Quality and Drinking Water media. Specific activities include: management of the Office of Water operating guidance and accountability system; development of program plans and budget for implementation of Agency policies; development of legislative initiatives and directions; review of regulations and program policies; tracking of budget execution; and administrative management.

1990 Program

In 1990, the Agency is allocating a total of $2,954,000 supported by 45.9 total workyears, all of which is from the Salaries and Expenses appropriation.

This program is supporting the development of national policy and implementation of the national regulatory programs for the Water Quality and Drinking Water media. Specific activities include: management of the Office of Water operating guidance and accountability system; development of program plans and budget for implementation of Agency policies; development of legislative initiatives and directions; review of regulations and program policies; tracking of budget execution; and administrative management.

1989 Accomplishments

In 1989, the Agency obligated a total of $3,096,500 supported by 45.6 total workyears, all of which was from the Salaries and Expenses appropriation. The program continued to focus in 1989 on the implementation of the Clean Water Act and Safe Drinking Water Act. Activities such as long-range planning and policy analysis, budget development and execution and administrative management were accomplished.

OFFICE OF ENFORCEMENT AND COMPLIANCE MONITORING

Budget Request

The Agency requests a total of $759,600 supported by 11.0 total workyears for 1991 for this program, an increase of $185,100 and an increase of 1.0 total workyears from 1990. All of the request will be for the Salaries and Expenses appropriation.

1991 Program Request

The Agency requests a total of $759,600 supported by 11.0 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $185,100 and an increase of 1.0 total workyears from 1990. The dollar increase will fund the added workyears and provide for increased personnel and support costs. The additional workyear will be used to improve financial management and computer system support to the Office of Enforcement and Compliance Monitoring (OECM) and the Office of Federal Activities (OFA).

The request will be used for financial, management and administrative services for OECM-Headquarters, OFA, the National Investigations Center (NEIC), Regional legal enforcement, and the Criminal Investigation Program. Emphasis will be placed on improving administrative management functions, information management systems, and ADP support services. Increasing use of automation as a cost-effective tool will be required to effectively manage growth in the program areas and trust funds and greater complexity in financial tracking.

1990 Program

In 1990, the Agency is allocating a total of $574,500 supported by 10.0 total workyears for this program, all of which is from the Salaries and Expenses appropriation. Resources in 1990 will provide basic support to OECM, and for the first time OFA due to an Agency reorganization. Basic support includes program planning, personnel management, budget formulation and execution, financial management, information management, and ADP support. Budget formulation support and execution oversight are also provided to NEIC and the Criminal Investigation Program. Workload analyses and distribution of resources are provided for Regional legal enforcement.

1989 Accomplishments

In 1989, the Agency obligated a total of $528,700 supported by 9.1 total workyears, all of which was from the Salaries and Expenses appropriation.

The program provided basic managerial support for program planning, personnel, budget, financial management and administrative support services to the Assistant Administrator of OECM. In addition, budget formulation support was provided to the NEIC, Regional legal enforcement, and the expanding and increasingly visible Criminal Investigation Program.

PESTICIDES AND TOXIC SUBSTANCES

1991 Program Request

The Agency requests a total of $3,216,000 supported by 42.8 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $378,900 and no change in total workyears from 1990. The increase in Salaries and Expenses results from the transfer of total funding for the activities of the Biotechnology Science Advisory Committee to OPTS, as well as increased emphasis on international activities.

This program will support senior level management of the Pesticides and Toxic Substances program and the Immediate Office of the Assistant Administrator for Pesticides and Toxic Substances, as well as funding the activities of the Biotechnology Science Advisory Committee. Key activities include: efficient and effective general management, strategic planning, and administrative and budget support.

1990 Program

In 1990, the Agency is allocating a total of $2,837,100 supported by 42.8 total workyears for this program, all of which is from the Salaries and Expenses appropriation. These resources provide senior level management of the Pesticides and Toxic Substances programs and the Immediate Office of the Assistant Administrator for Pesticides and Toxic Substances with support, as well as partially funding, along with the Office of Research and Development, the activities of the Biotechnology Science Advisory Committee.

1989 Accomplishments

In 1989 the Agency obligated a total of $2,861,000 supported by 41.0 total workyears for this program, all of which was from the Salaries and Expenses appropriation. These resources provided support for the senior level management of the Pesticides and Toxic Substances programs and the Immediate Office of the Assistant Administrator for Pesticides and Toxic Substances and, along with the Office of Research and Development, funded the activities of the Biotechnology Science Advisory Committee.

GENERAL COUNSEL

1991 Program Request

The Agency requires a total of $544,000 supported by 10.5 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $40,600 and no change in total workyears from 1990. The increase in Salaries and Expenses reflects increased personnel and support costs.

The request will support planning, budgeting, financial management, management analysis, and administrative services to the Office of General Counsel.

1990 Program

In 1990, the Agency is allocating a total of $503,400 supported by 10.5 total workyears for this program, all of which is from the Salaries and Expenses appropriation.

The program provides for planning, budgeting, financial management, management analysis, and administrative services to the Office of General Counsel.

1989 Accomplishments

In 1989, the Agency obligated a total of $482,600 supported by 8.7 total workyears for this program, all of which was from the Salaries and Expenses appropriation.

Activities focused on providing planning, analytical support, budgeting, financial management, and administrative services to the Office of General Counsel.

RESEARCH AND DEVELOPMENT

1991 Program Request

The Agency requests a total of $7,026,000 supported by 71.8 total workyears, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $702,500 from 1990. Additional resources will be used to maintain central management control processes to optimize ORD's use of capital equipment, laboratory and office facilities, human resources, and to incorporate improvements of the Agency's new Financial Management Information System.

This program will provide policy guidance, direction and support to ORD's programs to ensure the effective coordination of diverse research programs and administrative management services. These activities include: coordination of the research program planning and budgeting; monitoring of operating year budget execution; coordination of the research activities and administrative support services required at the co-located laboratories in Cincinnati, Ohio and Research Triangle Park, North Carolina; liasion to EPA Regions, OMB, Congress and other Federal agencies; operation and enhancement of ORD's information systems to support research program planning and management accountability and performance of other program management activities such as facilities planning and management, and management and evaluation studies required for ORD.

1990 Program

In 1990, the Agency is allocating a total of $6,323,500 supported by 71.8 total workyears, all of which is from the Salaries and Expenses appropriation. Program Management will continue to coordinate and integrate the entire research and development effort of the Agency, ensuring that the needs identified by program and Regional offices are met.

1989 Accomplishments

The Agency obligated $5,708,000 supported by 65.9 total workyears for this program, all of which was from the Salaries and Expenses appropriation. These resources provided for the overall direction, policy guidance, mangement analyses, liaison activities, program planning and budgeting, ORD's information systems, and general administrative support.

SOLID WASTE AND EMERGENCY RESPONSE

1991 Program Request

The Agency requests a total of $2,169,800 supported by 28.0 total workyears, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $477,900 from 1990. The increase in Salaries and Expenses reflects increased personnel and support costs.

This request will allow the Agency to continue to maintain a complete administrative and programmatic management team within the Office of Solid Waste and Emergency Response (OSWER). This will provide for the full array of policy, regulatory development, and analysis activities; public liaison functions;

resource management; information management; and other support activities for the OSWER programs.

1990 Program

In 1990, the Agency is allocating a total of $1,691,900 supported by 28.0 total workyears, all of which is from the Salaries and Expenses appropriation. This level of resources provides for a wide range of support from the OSWER management team to the Regions, to the program offices, and to the Agency. OSWER program management activities include the review of policy recommendations and proposed regulations; integration of both program and funds control; information management; property management; and administrative support.

1989 Accomplishments

In 1989, the Agency obligated a total of $1,785,300 supported by 30.3 total workyears, all of which was from the Salaries and Expenses appropriation. OSWER program management integrated hazardous waste and Superfund activities; managed the review of policy recommendations and proposed regulations; maintained effective management controls; and provided personnel, financial, administrative, and information management support to the program offices.

Office of the Administrator

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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AGENCY MANAGEMENT
Office of the Administrator/Executive Offices

PROGRAM		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
Immediate Office Of The Administrator						
Salaries & Expenses		$2,527.2	$2,118.1	$2,437.9	$2,884.5	$446.6
Abatement Control and Compliance			$984.6	$972.1		-$972.1
	TOTAL	$2,527.2	$3,102.7	$3,410.0	$2,884.5	-$525.5
Office of Regional Operations and State/Local Relations						
Salaries & Expenses		$943.1	$826.7	$1,086.6	$1,349.3	$262.7
	TOTAL	$943.1	$826.7	$1,086.6	$1,349.3	$262.7
Office Of Executive Support						
Salaries & Expenses		$1,132.7	$969.1	$1,397.5	$1,701.9	$304.4
	TOTAL	$1,132.7	$969.1	$1,397.5	$1,701.9	$304.4
Administrator's Representation Fund						
Salaries & Expenses		$1.1	$5.0	$5.0	$6.0	$1.0
	TOTAL	$1.1	$5.0	$5.0	$6.0	$1.0
Office of Civil Rights						
Salaries & Expenses		$1,518.1	$1,452.6	$1,413.6	$1,649.9	$236.3
	TOTAL	$1,518.1	$1,452.6	$1,413.6	$1,649.9	$236.3
Science Advisory Board						
Salaries & Expenses		$1,540.6	$1,441.4	$1,472.0	$1,735.8	$263.8
	TOTAL	$1,540.6	$1,441.4	$1,472.0	$1,735.8	$263.8
Office of Administrative Law Judges						
Salaries & Expenses		$994.7	$1,105.9	$1,098.2	$1,281.0	$182.8
	TOTAL	$994.7	$1,105.9	$1,098.2	$1,281.0	$182.8
Office of Small & Disadvantaged Business Utilization						
Salaries & Expenses		$609.2	$490.5	$484.0	$638.7	$154.7
	TOTAL	$609.2	$490.5	$484.0	$638.7	$154.7
Office Of Congressional and Legislative Affairs						
Salaries & Expenses		$2,199.5	$2,255.3	$2,208.7	$2,661.1	$452.4
	TOTAL	$2,199.5	$2,255.3	$2,208.7	$2,661.1	$452.4
Office of Communication and Public Affairs						
Salaries & Expenses		$3,526.6	$3,672.6	$4,108.0	$4,792.6	$684.6
	TOTAL	$3,526.6	$3,672.6	$4,108.0	$4,792.6	$684.6

AGENCY MANAGEMENT
Office of the Administrator/Executive Offices

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
TOTAL:						
Salaries & Expenses	TOTAL	$14,992.8	$14,337.2	$15,711.5	$18,700.8	$2,989.3
Abatement Control and Compliance	TOTAL		$984.6	$972.1		-$972.1
Office of the Administrator/ Executive Offices	TOTAL	$14,992.8	$15,321.8	$16,683.6	$18,700.8	$2,017.2
PERMANENT WORKYEARS						
Immediate Office Of The Administrator		33.7	37.8	39.8	43.8	4.0
Office of Regional Operations and State/Local Relations		12.6	11.7	20.6	20.6	0.0
Office Of Executive Support		24.0	24.8	28.8	30.4	1.6
Office of Civil Rights		23.2	24.8	22.8	24.8	2.0
Science Advisory Board		14.9	24.4	14.6	25.4	10.8
Office of Administrative Law Judges		17.8	17.4	16.8	18.4	1.6
Office of Small & Disadvantaged Business Utilization		7.8	6.9	6.9	6.9	0.0
Office Of Congressional and Legislative Affairs		36.8	44.1	49.8	49.8	0.0
Office of Communication and Public Affairs		50.5	56.5	63.5	63.5	0.0
TOTAL PERMANENT WORKYEARS		221.3	248.4	263.6	283.6	20.0

AGENCY MANAGEMENT
Office of the Administrator/Executive Offices

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
TOTAL WORKYEARS					
Immediate Office Of The Administrator	38.2	37.8	42.8	43.8	1.0
Office of Regional Operations and State/Local Relations	13.7	11.7	20.6	20.6	0.0
Office Of Executive Support	25.2	24.8	28.8	30.4	1.6
Office of Civil Rights	24.9	24.8	23.8	24.8	1.0
Science Advisory Board	21.4	24.4	24.4	25.4	1.0
Office of Administrative Law Judges	17.8	17.4	17.4	18.4	1.0
Office of Small & Disadvantaged Business Utilization	7.8	6.9	6.9	6.9	0.0
Office Of Congressional and Legislative Affairs	42.6	44.1	49.8	49.8	0.0
Office of Communication and Public Affairs	55.9	56.5	63.5	63.5	0.0
TOTAL WORKYEARS	247.5	248.4	278.0	283.6	5.6

MANAGEMENT AND SUPPORT

Agency Management

Office of the Administrator/Executive Offices

Budget Request

The Agency requests a total of $18,700,800 supported by 283.6 total workyears in 1991 all of which will be used for the Salaries and Expenses appropriation. This represents an increase of $2,989,300 and 5.6 total workyears from 1990.

IMMEDIATE OFFICE OF THE ADMINISTRATOR

1991 Program Request

The Agency requests a total of $2,884,500 and 43.8 total workyears for this program, all of which is for the Salaries and Expenses appropriation. This represents an increase of $446,600 in the Salaries and Expenses appropriation, a decrease of $972,100 in the Abatement, Control and Compliance appropriation, and an increase of 1.0 total workyear from 1990. The increase in Salaries and Expenses reflects increased personnel and support costs. The decrease in the Abatement, Control, and Compliance appropriation is the result of a 1990 increase for the "Krakow Initiative". The resource increase will allow the Judicial Officer function to accommodate the expanding number of requests sent to them for final decision. Since 1983, this function has seen its caseload increase by 400%. The Office will continue its responsibility for Agency policy and direction, and for setting environmental goals.

1990 Program

In 1990, the Agency is allocating a total of $3,410,000 supported by 42.8 total workyears for this program, of which $2,437,900 is from the Salaries and Expenses appropriation and $972,100 is from the Abatement, Control, and Compliance appropriation. The major priorities in the Immediate Office are: increased emphasis on enforcement and compliance efforts of both environmental and civil rights regulations, continued delegations to State and local governments, on-going support of enhanced science as a basis for decision-making, and use of improved methodologies for managing risk.

1989 Accomplishments

In 1989, the Agency obligated a total of $2,527,200 supported by 38.2 total workyears for this program, all of which was from the Salaries and Expenses appropriation. The major focus of activity was enforcement and compliance efforts to ensure better internal management and to meet the increased number of cases sent to the Judicial Officer function for final decision.

OFFICE OF REGIONAL OPERATIONS AND STATE/LOCAL RELATIONS

1991 Program Request

The Agency requests a total of $1,349,300 supported by 20.6 total workyears for this program, all of which is for the Salaries and Expenses appropriation. This represents an increase of $262,700 and no change in total workyears from 1990. The increase in Salaries and Expenses reflects increased personnel and support costs. The Office will continue to ensure that the Administrator's policies are effectively communicated to the Regional Administrators; that the Administrator is alerted to potential Regional problems and concerns; that the Administrator is assisted in managing significant Regional issues, and that the basic management needs of the Environmental Services Divisions are addressed. The Office will also continue its implementation of leadership and guidance activities to support community relations efforts throughout the Agency, to maintain Agency liaison with state and local officials while increasing activities to enhance technology transfer capabilities and ensure emphasis on Federalism.

1990 Program

In 1990, the Agency is allocating a total of $1,086,600 and 20.6 total workyears, all of which is from the Salaries and Expenses appropriation. The Office provides a key communications link between the Administrator and the ten Regional offices, plays an active part in Regional budget issues, implements Agency guidance in community relations activities to provide maximum appropriate local involvement in EPA's decisions, and provides guidance for and oversight of the ten Environmental Services Divisions.

1989 Accomplishments

In 1989, the Agency obligated a total of $943.1 and 13.7 total workyears for this program, all of which was from the Salaries and Expenses appropriation. The Office ensured that the Administrator's policies were effectively communicated to the Regional Administrators, that the Regions were included in the policy-making and decision-making processes, and that the Administrator was kept informed of Regional concerns and issues. The Office also initiated regular dialogue on environmental issues with local government organizations. In addition, the Office carried out its responsibility as the Headquarters focal point for the Agency's Environmental Services Divisions.

OFFICE OF EXECUTIVE SUPPORT

1991 Program Request

The Agency requests a total of $1,701,900 supported by 30.4 total workyears for this program, all of which is for the Salaries and Expenses appropriation. This represents an increase of $304,400 and 1.6 total workyears from 1990. The increase in Salaries and Expenses reflects increased personnel and support costs. The additional resources will be used for the Freedom of Information (FOI) function due to the ever increasing volume of FOIA requests. The number of FOIA requests received has increased by over 360% over the last five years. Responsibilities include routing, logging, and tracking FOIA requests, and a more active role as the Agency-wide FOI Coordinator with responsibilities including

FOI policy development, oversight, and monitoring compliance of FOI Act and Regulations, developing and coordinating Agency FOI policies, and providing guidance and training for the Agency FOI staff. The Office will also continue developing resource determinations in support of various staff office functions including ongoing personnel, financial, budget, and administrative management functions; Staff Office automation support, and processing and monitoring Congressional and executive correspondence.

1990 Program

In 1990, the Agency is allocating a total of $1,397,500 and 28.8 total workyears for this program, all of which is from the Salaries and Expenses appropriation. The Office is responsible for monitoring resource expenditures, developing the out-year budget for the staff offices, providing centralized personnel management support services, and providing assistance to staff offices with recruitment, staffing, and property control. The Office continues to prepare a yearly report to Congress on the cost to the Agency and to the public of administering the Freedom of Information Act, to provide policy and program oversight on the Freedom of Information Act, and to manage and track executive and Congressional correspondence.

1989 Accomplishments

In 1989, the Agency obligated a total of $1,132,700 and 25.2 total workyears for this program, all of which was from the Salaries and Expenses appropriation. The Office completed monthly financial and operating plan reports, developed the out-year budget for the staff offices, and conducted workload analyses for Regional Management. The Office also provided assistance and staffing plan development, program management services, and resource and computer planning studies for the Administrator's staff offices. In addition, the Office logged, controlled and monitored all Freedom of Information requests, Congressional correspondence, and correspondence addressed to the Administrator and the Deputy Administrator.

ADMINISTRATOR'S REPRESENTATION FUND

1991 Program Request

The Agency requests a total of $6,000 for this program, all of which is for the Salaries and Expenses appropriation. This represents an increase of $1,000 from 1990. This increase will provide the Administrator the resources necessary to meet the expanding requirements for official receptions and meetings for visiting dignitaries.

1990 Program

In 1990, the Agency is allocating a total of $5,000 to this program, all of which is from the Salaries and Expenses appropriation. These funds are to cover the expenses of official receptions and other functions.

1989 Accomplishments

In 1989, the Agency obligated a total of $1,100 for this function from the Salaries and Expenses appropriation. This amount covered the expenses of official receptions and other functions.

OFFICE OF CIVIL RIGHTS

1991 Program Request

The Agency requests a total of $1,649,900 supported by 24.8 total workyears for this program, all of which is for the Salaries and Expenses appropriation. This represents an increase of $236,300 and 1.0 total workyear from 1990. The increase in Salaries and Expenses reflects increased personnel and support costs. The additional resources will be used for the External Compliance Program to monitor Title VI compliance for approximately 4.3 billion dollars in Federal grants. That monitoring responsibility involves educating those involved about their rights and responsibilities as well as developing effective and regular review processes. The Office of Civil Rights will also continue to provide technical guidance and direction to the Agency's civil rights efforts; provide policy guidance and implementation of the discrimination complaints processing system; increase policy monitoring and support for Regional Civil Rights Offices, as well as for Headquarters Office of Civil Rights; provide continuous monitoring of affirmative action plan implementation; expand and improve the Equal Employment Opportunity (EEO) counseling program to resolve complaints through informal conciliation; strengthen and improve the special emphasis programs by conducting seminars and workshops for special emphasis employees and Agency managers; increase quantity and quality of EEO reviews and studies; and improve the implementation of the Agency regulations regarding non-discrimination in Federally assisted programs.

1990 Program

The Agency is allocating a total of $1,413,600 and 23.8 total workyears for this Office, all of which is from the Salaries and Expenses appropriation. These resources will enable the Office of Civil Rights (OCR) to continue to provide technical guidance and direction for the Agency's Civil Rights efforts. The Office is strengthening and improving the special emphasis programs by conducting seminars and workshops for special emphasis employees and Agency managers, and is continuing to conduct EEO reviews and studies and provide management support and quality control through on-site program evaluations. OCR continues to implement the Agency's regulations regarding non-discrimination in Federally-assisted programs. We will work to reduce processing time for discrimination complaints and will provide increased management support and quality control through on-site evaluations.

1989 Accomplishments

The Agency obligated a total of $1,518,100 supported by 24.9 total workyears for this program, all of which was from the Salaries and Expenses appropriation. The Office of Civil Rights carried out national equal employment opportunity monitoring and enforcement programs; managed the Agency's affirmative action program, special emphasis programs and the discrimination complaints program;

implemented regulations and programs requiring EPA grant recipients to adhere to the civil rights laws and labor standards requirements of applicable Federal statutes; and served as the Agency's focal point for the Historically Black Colleges and Universities program. Specifically, the Office evaluated activities required to carry out the Agency's responsibilities to assure equal opportunity and to prohibit discrimination in employment at EPA; ensured implementation of the Agency's Special Emphasis Programs (Federal Women's, Hispanic Employment and Black Employment Programs); implemented and monitored the Agency's Affirmative Action Plans to remedy under representation in the workforce; and assured compliance by Agency grantees and contractors with provisions of civil rights laws and labor standards requirements of applicable Federal statutes.

SCIENCE ADVISORY BOARD

1991 Program Request

The Agency requests a total of $1,735,800 supported by 25.4 total workyears for this program, all of which is for the Salaries and Expenses appropriation. This represents an increase of $263,800 and 1.0 total workyear from 1990. The increase in Salaries and Expenses reflects increased personnel and support costs. In 1991, approximately 81 regulatory issues will be identified for the Science Advisory Board (SAB) to examine, an increase of 20 reviews from 1990.

1990 Program

In 1990, the Agency is allocating a total of $1,472,000 supported by 24.4 total workyears for this program, all of which is from the Salaries and Expenses appropriation. The Science Advisory Board is providing expert, independent advice to the Administrator and the Agency on 61 scientific and technical issues before the Agency.

1989 Accomplishments

The Agency obligated a total of $1,540,600 supported by 21.4 total workyears for this program, all of which was from the Salaries and Expenses appropriation. The SAB conducted 59 reviews in 1989. Included among these reviews were issues relating to hazardous air pollutants, toxic substances, drinking water, municipal waste combustion, and radon.

OFFICE OF ADMINISTRATIVE LAW JUDGES (ALJ)

1991 Program Request

The Agency requests a total of $1,281,000 supported by 18.4 total workyears for this program, all of which is for the Salaries and Expenses appropriation. This represents an increase of $182,800 and 1.0 workyear from 1990. The increase in Salaries and Expenses reflects increased personnel and support costs. The additional resources will be used to support the ALJ's expanding caseload including 600 new Toxic Substances Control Act (TSCA) cases related to the Asbestos Hazardous Emergency Response Act. EPA's Office of Enforcement anticipates a high rate of enforcement actions in 1991 as a result of noncompliance by school districts of the asbestos regulations.

1990 Program

In 1990, the Agency is allocating a total of $1,098,200 supported by 17.4 total workyears for this program, all of which is from the Salaries and Expenses appropriation. The ALJ expects to receive approximately 1060 cases from EPA Regional offices in 1990. Of this total, approximately 200 cases are expected to be under the Resource Conservation and Recovery Act (RCRA), 550 cases under the Toxic Substances Control Act (TSCA), and 145 cases under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). In addition, this Office will handle approximately 165 cases originating at Headquarters, including suspensions; cancellations; Sec. 3(c)(1)(D) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); and Clean Air Act cases.

1989 Accomplishments

In 1989, the Agency obligated a total of $994,700 and 17.8 total workyears for this program, all of which was from the Salaries and Expenses appropriation. This Office maintained a docket of 980 cases. Of these cases, 185 were under RCRA; 525 were under TSCA; and 140 cases were under FIFRA.

OFFICE OF SMALL AND DISADVANTAGED BUSINESS UTILIZATION

1991 Program Request

The Agency requests a total of $638,700 supported by 6.9 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $154,700 and no change in total workyears from 1990. The increase in Salaries and Expenses reflects increased personnel and support costs. The Office will continue to provide technical assistance to both Headquarters and Regional program office personnel to ensure that small, minority and/or women's businesses are receiving a "fair share" of procurement dollars under EPA's Financial Assistance Program. In addition, the ombudsman will respond to approximately 8,000 inquiries from small firms on regulatory matters and will provide advice on the many new regulations that will bring about the desired level of voluntary compliance to several thousand small businesses.

1990 Program

The Agency is allocating a total of $484,000 supported by 6.9 total workyears for this program, all of which is from the Salaries and Expenses appropriation. In 1990 we are stressing the handling of additional "Hotline" calls, implementing a Small Business Ombudsman Strategy, creating business regulatory outreach demonstration projects, and promoting Minority Business Enterprise and Women's Business Enterprise participation in the Agency's financial assistance programs to comply with Executive Order 12432. In addition, the Office will monitor and provide advice on the many new regulations that will bring about the desired level of voluntary compliance by several thousand small businesses.

1989 Accomplishments

In 1989, the Agency obligated a total of $609,200 supported by 7.8 total workyears for this program, all of which was from the Salaries and Expenses

appropriation. The Office coordinated activities with EPA's procurement and financial assistance programs by providing training and technical assistance; provided assistance toward increasing the level of Minority Business Enterprise/ Women's Business Enterprise (MBE/WBE) participation in EPA-assisted programs; provided technical and managerial assistance to Headquarters and Regional staff assigned to socio-economic program activities, and counseled minority and women's businesses in compliance with Executive Order 12432.

OFFICE OF CONGRESSIONAL AND LEGISLATIVE AFFAIRS

1991 Program Request

The Agency requests a total of $2,661,100 supported by 49.8 total workyears for 1991, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $452,400 and no change in total workyears from 1990. The increase in Salaries and Expenses reflects increased personnel and support costs. The budget request will enable the Office to provide effective day-to-day liaison with the Congress and will ensure that increasing member and committee requests are handled in a timely manner. The Office will ensure that testimony, draft legislation, and analyses and reports on pending and proposed legislation will be developed and provided to OMB and the Congress in a timely fashion and consistent with Agency and Administration policies.

1990 Program

In 1990, the Agency is allocating a total of $2,208,700 supported by 49.8 total workyears for this Office, all of which is from the Salaries and Expenses appropriation. The Office will continue to provide effective day-to-day liaison with Congress as it examines legislation relating to environmental issues, and will prepare agency reports and recommendations on pending and enacted legislation including draft legislative proposals extending the appropriations required for EPA's major statutory authorities.

1989 Accomplishments

In 1989, the Agency obligated a total of $2,199,500 supported by 42.6 total workyears for this Office, all of which was from the Salaries and Expenses appropriation. The Office of Congressional Liaison was responsible for all day-to-day Congressional contacts, including more than 250 briefings of members and/or staff, involvement in approximately 130 hearings, coordination of numerous meetings, courtesy calls, specific Committee investigative information requests and casework generated by Congress. The Office also developed testimony and related material for 109 legislative hearings, reviewed and responded to 145 bills referred to the Agency from OMB and Congressional committees, 120 draft legislative reports proposed by other agencies, and 172 statements or testimony of other agencies.

OFFICE OF COMMUNICATIONS AND PUBLIC AFFAIRS

1991 Program Request

The Agency requests a total of $4,792,600 supported by 63.5 total workyears for 1991, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $684,600 and no change in total workyears from 1990. The increase in Salaries and Expenses reflects increased personnel and support costs. In 1991, the Office of Communications and Public Affairs will continue to inform, educate, and involve the public on the issues before the Agency and to promote understanding of the Agency's mission and the Administrator's goals and objectives.

1990 Program

In 1990, the Agency is allocating a total of $4,108,000 supported by 63.5 total workyears for this Office, all of which is for the Salaries and Expenses appropriation. In addition to working with the news media and providing informational materials for the general public, the Office is emphasizing: (1) improving coordination within the Agency of communication activities related to major Agency actions, and (2) strengthening long-range planning of public information activities in coordination with major EPA program offices and the Regional offices.

1989 Accomplishments

In 1989, the Agency obligated a total of $3,526,600 supported by 55.9 total workyears for this Office, all of which was from the Salaries and Expenses appropriation. In addition to the general activities of informing the news media and providing information material to the public, the Office focused on Agency priority issues of concern to the public and provided communications support for major EPA initiatives.

Office of Inspector General

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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AGENCY MANAGEMENT
Office of the Inspector General

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Office of Inspector General					
Salaries & Expenses	$15,885.8	0.0	0.0	0.0	0.0
Office of Inspector General	0.0	$21,085.4	$20,845.4	$22,585.8	$1,740.4
TOTAL	$15,885.8	$21,085.4	$20,845.4	$22,585.8	$1,740.4
TOTAL:					
Salaries & Expenses	$15,885.8	0.0	0.0	0.0	0.0
Office of Inspector General	0.0	$21,085.4	$20,845.4	$22,585.8	$1,740.4
TOTAL	$15,885.8	$21,085.4	$20,845.4	$22,585.8	$1,740.4
PERMANENT WORKYEARS					
Office of Inspector General	219.1	242.8	242.8	262.1	19.3
TOTAL PERMANENT WORKYEARS.	219.1	242.8	242.8	262.1	19.3
TOTAL WORKYEARS					
Office of Inspector General	221.1	242.8	242.8	262.1	19.3
TOTAL WORKYEARS	221.1	242.8	242.8	262.1	19.3

Agency Management

Office of the Inspector General

Budget Request

The Agency requests a total of $22,585,800 supported by 262.1 total workyears for 1991, an increase of $1,740,400 and 19.3 total workyears from 1990. All of this request will be for the Inspector General appropriation. This does not include an additional $3,230,000 in support costs for the entire Office of Inspector General appropriation that are displayed in the Office of Administration and Resource Management support accounts.

Program Description

This office is responsible for conducting, supervising, and coordinating audits and investigations relating to EPA programs and operations; promoting economy, efficiency, and effectiveness in the administration of EPA programs; preventing and detecting fraud and abuse in EPA programs and operations; keeping the Administrator and Congress advised of problem areas and related corrective action; and reviewing EPA regulations and legislation.

OFFICE OF INSPECTOR GENERAL

1991 Program Request

The Agency requests a total of $22,585,800 supported by 262.1 total workyears, all of which will be for the Management portion of the Office of Inspector General appropriation. This represents an increase of $1,740,400 and 19.3 total workyears from 1990. We will use these resources to (1) provide effective management of the contract audit program, including development and maintenance of in-house contract audit expertise, and conduct needed audits of highly sensitive contract issues; (2) continue conducting audits to close out construction grants;(3) expand the OIG's capability to conduct audits of the Agency's growing and complex, yet vulnerable computer systems, used to make critical environmental decisions; (4) obtain severely needed ADP and law enforcement equipment, (5) increase investigative efforts to reduce the risk of fraud and abuse in Agency procurement, construction grant, and other programs; and (6) support the Agency personnel security program and new legislative requirements of the Inspector General Act Amendments.

The resources requested will be used by the Office of Inspector General (OIG) to continue conducting performance (internal and management) audits to improve the economy, efficiency, and effectiveness of EPA programs and to provide and expand audit coverage to EPA programs and operations for ensuring that maximum pollution prevention is achieved with existing Agency program resources. The OIG will emphasize reviewing programs aimed at achieving environmental results and strong enforcement of environmental laws with an emphasis on (1) indoor and ambient air quality, (2) pesticides and toxics substances, (3) hazardous waste disposal, (4) wetlands, and (5) water quality (surface,

groundwater, and drinking water). The OIG will continue its program of external audits of grants and contracts which have historically recovered over $23 in costs for each audit dollar spent and conduct audits of the State Revolving Funds.

The OIG will also increase high-impact investigations of antitrust activities and other construction-related fraud and will aggressively pursue new initiatives, including the use of substandard materials by architectural and engineering firms and conspiracies to defraud by contract laboratories. By focusing our fraud efforts in vulnerable areas and by taking more proactive initiatives, the OIG expects to obtain greater results, including more indictments, convictions, and monetary recoveries. The OIG will continue its efforts in fraud prevention by publicizing OIG activities to EPA employees, identifying areas sensitive to fraud, and developing new fraud detection tools and methods.

1990 Program

In 1990, the Agency is allocating a total of $20,845,400 supported by 242.8 total workyears, all of which is from the Salaries and Expense appropriation. The OIG is continuing to perform performance based audits needed to help improve the economy, efficiency, and effectiveness of the Agency's overall program operations. Primary emphasis is on reviewing programs or areas in which insufficient audit resources have been devoted. For example, this would include reviewing programs aimed at achieving environmental results and ensuring strong enforcement including air and water quality, hazardous waste disposal, pesticides and toxics, and asbestos grants and loans. Such reviews assist Agency managers to identify and correct major systemic problems which in turn strengthen environmental programs. These reviews help the Agency meet its mission while ensuring that limited resources are used more efficiently and effectively.

The OIG investigative resources are devoted to conducting criminal investigations relating to EPA programs and operations. Major investigations cover bid rigging and other fraud in EPA-funded construction activities; procurement fraud; false claims; fraud and misconduct concerning EPA employees; and administrative investigations of improprieties involving EPA programs and personnel. New initiatives have been aggressively started to identify fraud in the contract laboratory program and use of substandard materials in construction projects. Efforts are continuing to encourage the use of the OIG hotline to uncover instances of suspected fraud, waste, and mismanagement. Under the fraud prevention program, the OIG is providing technical and audit assistance to the Agency assessing the adequacy of internal controls as required by the Federal Managers' Financial Integrity Act of 1982.

1989 Accomplishments

In 1989, the Agency obligated a total of $15,885,800 supported by 221.1 total workyears, all of which was from the Salaries and Expenses appropriation. The Office of Inspector General issued 1,920 audit reports with questioned costs and recommended efficiencies of $610,200,000. Overall, $106,400,000 of costs questioned and recommended efficiencies were sustained by Agency management. During the year, the Agency obtained $30,000,000 of actual cash recoveries as a result of audit efforts. An expanded performance audit program was implemented and about 25 percent of the OIG audit resources were devoted to examining many

critical areas needing audit. Performance audits provided recommendations for improving the effectiveness, efficiency, and results of EPA program operations. Investigative activities focusing on major civil and criminal violations have resulted in the recovery of $5,433,251 in judgments, fines and restitution.

Key improvements resulting from OIG audits included: (1) strengthening inspections and enforcement of hazardous air pollutants standards for asbestos; (2) strengthening of controls over the permitting of hazardous waste sites; (3) developing and enacting an enforcement strategy over the export and import of hazardous wastes, and (4) initiating aggressive action plan to identify and enforce closing of hazardous waste sites. The OIG opened 262 new investigations and closed 274 investigations, obtaining 74 indictments or convictions. Significant results were achieved in investigations of hazardous waste cleanup fraud, and bribery in the inspection of asbestos removal, false statements in the construction grant, contract services, and other programs, and the submission of fraudulent documentation involving emissions testing of foreign vehicles. The OIG also initiated a fraud prevention and detection awareness program for EPA managers to encourage and improve their recognition and reporting of possible fraud and abuse.

Office of General Counsel

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Office of the General Counsel

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
PROGRAM						
Office Of General Counsel						
Salaries & Expenses		$7,416.7	$7,529.6	$7,636.7	$10,197.0	$2,560.3
	TOTAL	$7,416.7	$7,529.6	$7,636.7	$10,197.0	$2,560.3
TOTAL:						
Salaries & Expenses		$7,416.7	$7,529.6	$7,636.7	$10,197.0	$2,560.3
Office Of General Counsel	TOTAL	$7,416.7	$7,529.6	$7,636.7	$10,197.0	$2,560.3
PERMANENT WORKYEARS						
Office Of General Counsel		110.6	126.7	130.6	145.6	15.0
TOTAL PERMANEMENT WORKYEARS		110.6	126.7	130.6	145.6	15.0
TOTAL WORKYEARS						
Office Of General Counsel		121.1	126.7	130.6	145.6	15.0
TOTAL WORKYEARS		121.1	126.7	130.6	145.6	15.0

MANAGEMENT AND SUPPORT

Agency Management

Office of General Counsel

Budget Request

The Agency requests a total of $10,197,100 supported by 145.6 total workyears for 1991, an increase of $2,560,300 from 1990. All of the requested funds will be for the Salaries and Expenses appropriation. This represents an increase of 15 total workyears from the Salaries and Expenses appropriation and no change in total workyears from the Reregistration and Expedited Processing Revolving Fund.

GENERAL COUNSEL

1991 Program Request

The Agency requests a total of $10,197,100 supported by 145.6 workyears for this program. All of the requested funds will be for the Salaries and Expenses appropriation. Total workyears will include 144.6 from the Salaries and Expenses appropriation and 1.0 will be from the Reregistration and Expedited Processing Revolving Fund. This represents an increase of $2,560,300 in the Salaries and Expenses appropriation, an increase of 15.0 total workyears from the Salaries and Expenses appropriation and no change in total Reregistration and Expedited Processing Revolving Fund workyears from 1990. The increase in Salaries and Expenses will provide for additional attorney staff and for increased costs of office support and personnel.

The Office of General Counsel (OGC) will provide legal advice and counsel to Agency management and media program offices concerning legal interpretation of EPA administered statutes, other applicable laws, regulations and administrative areas a such as personnel, grants, contracts, and access by the public to EPA held information. The OGC will handle litigation in which EPA is a defendant. Legal support and review will be provided for all major regulatory actions, policy documents and guidelines to insure that legal error is avoided. OGC's requested increase of 15.0 total workyears will be devoted to a broad range of areas including support to the Clean Air Act; Clean Water Act; Resource Conservation and Recovery Act; support to the Inspector General's Office; legal support on American Indian and international matters, and to the Agency's procurement program. This increase will build additional capacity within the OGC to fulfill its mission of providing legal services to all organizational elements of the Agency for all Agency programs and activities. OGC will be better able, as legal advisor, to assist in the formulation and administration of the Agency's policies and programs. Six total workyears will be devoted from the increase to the implementation of anticipated major amendments to the Clean Air Act, particularly for ozone and carbon monoxide attainment, mobile source rulemakings, hazardous air pollutants, permit issues, and acid deposition controls.

OGC will support reregistration activities related to the 1988 FIFRA Amendments, particularly to Phase IV and Phase V of the reregistration process to support the Agency in any litigation against it and to assist in making precedential legal and policy decisions on the first pesticides that go through the process.

1990 Program

In 1990, the Agency is allocating a total of $7,636,700 supported by 130.6 total workyears for this program. All funds are from the Salaries and Expenses appropriation. Total workyears include 129.6 from the Salaries and Expenses appropriation and 1.0 from the Reregistration and Expedited Processing Revolving Fund. The 1990 program provides continued support to Agency program priorities through legal advice and assistance, handling defensive litigation, review of Agency rulemaking actions, and participating in selected administrative proceedings.

OGC will support reregistration activities related to the 1988 FIFRA Amendments through assistance to the establishment of the basic regulatory framework for reregistration, and handling litigation which may result from new requirements such as health and environmental testing under Part 158 and Data Call-In requests that will be enforced by suspension orders.

1989 Accomplishments

In 1989, the Agency obligated a total of $7,416,700 supported by 121.1 total workyears. All funds were from the Salaries and Expenses appropriation. Total workyears included 120.8 from the Salaries and Expenses appropriation, and 0.3 from the Reregistration and Expedited Processing Revolving Fund. In 1989, the OGC supported priorities by providing legal advice and support to Agency managers and by defending the Agency in litigation filed against it. OGC also reviewed regulatory actions to ensure legal defensibility and provided advice on other actions, such as grants, contracts, and personnel matters.

OGC supported reregistration activities related to the 1988 FIFRA Amendments by assisting in developing the broad structure of the reregistration program, including the initial fee collection system, the data requirements, and the lists of active ingredients for reregistration.

Office of International Activities

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Office of International Activities

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Office of International Activities					
Salaries & Expenses	$1,732.6	$1,966.9	$4,160.5	$3,814.5	-$346.0
Abatement Control and Compliance	$245.6	$814.1	$1,313.8	$949.9	-$363.9
TOTAL	$1,978.2	$2,781.0	$5,474.3	$4,764.4	-$709.9
TOTAL:					
Salaries & Expenses	$1,732.6	$1,966.9	$4,160.5	$3,814.5	-$346.0
Abatement Control and Compliance	$245.6	$814.1	$1,313.8	$949.9	-$363.9
Office of Internaional Activities TOTAL	$1,978.2	$2,781.0	$5,474.3	$4,764.4	-$709.9
PERMANENT WORKYEARS					
Office of International Activities	23.5	32.0	50.6	52.0	1.4
TOTAL PERMANENT WORKYEARS	23.5	32.0	50.6	52.0	1.4
TOTAL WORKYEARS					
Office of International Activities	26.6	32.0	53.0	52.0	-1.0
TOTAL WORKYEARS	26.6	32.0	53.0	52.0	-1.0

MANAGEMENT AND SUPPORT

Agency Management

Office of International Activities

Budget Request

The Agency requests a total of $4,764,400 supported by 52.0 total workyears for 1991. This represents a decrease of $709,700 and a decrease of 1.0 total workyears from 1990. Of this request, $3,814,500 will be for the Salaries and Expenses appropriation and $949,900 will be for the Abatement, Control, and Compliance appropriation. This represents a decrease of $346,000 in the Salaries and Expenses and a decrease of $363,900 in the Abatement, Control and Compliance appropriation.

OFFICE OF INTERNATIONAL ACTIVITIES

1991 Program Request

The Agency requests a total of $4,764,400 supported by 52.0 total workyears for this program, of which $3,814,500 will be for the Salaries and Expenses appropriation and $949,900 will be for the Abatement, Control and Compliance appropriation. This represents a decrease of $346,000 in the Salaries and Expenses appropriation, a decrease of $363,900 in the Abatement, Control and Compliance appropriation and a decrease of 1.0 total workyears. The decrease in the Salaries and Expenses appropriation reflects productivity improvements; the decrease in the Abatement, Control and Compliance appropriation reflects a shift in emphasis from contracting to policy analysis; and the decrease in workyears reflects a transfer to support an increased legal workload.

The Office of International Activities will develop the Agency's international strategy by managing, evaluating and strengthening bilateral agreements with Canada on acid rain, hazardous waste and Great Lakes water quality; with Mexico on Mexico City air pollution; and with the USSR on global warming. OIA's activities with Eastern Europe will focus on implementing the President's East European Environmental initiative, with particular emphasis on overseeing the newly established environmental center in Budapest and with expanded cooperative environmental activities in Poland (Krakow), Czechoslovakia and Yugoslavia. In 1991, the Office's activities will also focus on active and close participation with multilateral lending institutions on environmental issues; with the United Nations General Assembly (UNGA) on the development of environmental resolutions and the planning of the UN 1992 Conference on Environment and Development; and with the United Nations Environment Programme (UNEP) on ozone shield protection and global climate change. In addition, the Office will play a leadership role in implementing the recommendations of the International Environmental Technology Transfer Advisory Board (IETTAB), established at the request of the President to identify the needs and evaluate the barriers to the transfer of technology to developing countries and what were recently centrally planned economies.

1990 Program

In 1990, the Agency is allocating a total of $5,474,300 supported by 53.0 total workyears for this program, of which $4,160,500 is from the Salaries and Expenses appropriation and $1,313,800 is from the Abatement, Control and Compliance appropriation. The newly elevated and expanded Office is positioned to keep pace with heightened priorities in the international environmental arena. It is providing an added dimension to the management of U.S. environmental interests through a major evaluation of bilateral programs, through active participation in multilateral fora such as the Organization for Economic Cooperation and Development, the World Bank and UNEP, and through direct impact on the deliberations of the newly established International Environmental Technology Transfer Advisory Board. In addition, the Office will manage the 12th US-USSR Joint Committee Meeting and the Economic Commission for Europe's (ECE) Workshop on the "Economics of Sustainable Development".

1989 Accomplishments

The Agency obligated a total of $1,978,200 and 26.6 total workyears for this program, of which $1,732,600 was from the Salaries and Expenses appropriation and $245,600 was from the Abatement, Control and Compliance appropriation. Border air and water pollution problems continued to dominate the agenda of the Office, focussing on Mexico and Canada. 1989 also saw the first stirrings of the President's East European Environmental Initiative. In addition, hazardous waste issues continued to play a role.

ENVIRONMENTAL PROTECTION AGENCY

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Office of Federal Activities

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
PROGRAM						
Office of Federal Activities						
Salaries & Expenses		$2,107.1	$2,164.9	$2,266.9	$2,457.6	$190.7
	TOTAL	$2,107.1	$2,164.9	$2,266.9	$2,457.6	$190.7
TOTAL:						
Salaries & Expenses		$2,107.1	$2,164.9	$2,266.9	$2,457.6	$190.7
Office of Federal Activities	TOTAL	$2,107.1	$2,164.9	$2,266.9	$2,457.6	$190.7
PERMANENT WORKYEARS						
Office of Federal Activities		30.6	33.9	35.2	35.2	0.0
TOTAL PERMANENT WORKYEARS		30.6	33.9	35.2	35.2	0.0
TOTAL WORKYEARS						
Office of Federal Activities		33.7	33.9	35.2	35.2	0.0
TOTAL WORKYEARS		33.7	33.9	35.2	35.2	0.0

MANAGEMENT AND SUPPORT

Agency Management

Office of Federal Activities

Budget Request

The Agency requests a total of $2,457,600 supported by 35.2 total workyears for 1991. The entire request will be for the Salaries and Expenses appropriation. This represents an increase of $190,700 and no change in total workyears from 1990. The increase in Salaries and Expenses is provided for general administrative expenses.

1991 Program Request

The Agency requests a total of $2,457,600 and 35.2 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $190,700 and no change in total workyears. The increase in the Salaries and Expenses appropriation will provide additional resources to conduct environmental reviews of projects funded by multilateral development banks. In addition, these resources will assist the development of environmental impact assessment procedures by international organizations and other countries.

In 1991, the Office of Federal Activities will: review major Federal actions significantly affecting the environment, required by Section 309 of the Clean Air Act and National Environmental Policy Act (NEPA); identify potential problems and work to ensure incorporation of needed environmental improvements in these reviews; work with other Federal agencies to assure that their facilities comply with environmental regulations and standards; strengthen the Pollution Abatement Project Review Process; work to ensure that EPA programs and activities comply with environmental review requirements (including NEPA) and related environmental laws; develop policy and coordinate EPA programs for assisting Indian tribes in developing environmental programs; oversee environmental policy MOUs with other Federal agencies; manage the official filing activity for all Federal Environmental Impact Statements in accordance with an MOA with the Council of Environmental Quality; and assist in EPA participation in the international development of environmental impact assessment procedures.

1990 Program

In 1990, the Agency is allocating a total of $2,266,900 and 35.2 total workyears for this program, all of which is from the Salaries and Expenses appropriation.

The Office of Federal Activities will continue to: promote improved compliance by Federal facilities with environmental regulations, particularly those governing handling and disposal of hazardous and toxic wastes; assure that proposed major Federal projects are designed to prevent significant environmental impacts; ensure that EPA programs operate in conformance with NEPA and related environmental laws and executive policy; assist in development of environmental impact assessment procedures by international organizations and other countries;

coordinate implementation of the Agency's Indian Policy; and strengthen overall communication and liaison with other Federal agencies.

1989 Accomplishments

In 1989, the Agency obligated a total of $2,107,100 and 33.7 total workyears for this program, all of which was from the Salaries and Expenses appropriation. The Office focused its activity on: ensuring that EPA programs operate in conformance with NEPA and other cross-cutting Federal environmental statutes; directing activities related to compliance of Federal installations with environmental regulations; reviewing other Federal actions for potential environmental impact; analyzing EPA policies associated with other Federal agencies; overseeing the implementation of EPA Indian Policy; providing limited support for international environmental impact activities; and operating the Federal EIS filing effort.

Office of Policy, Planning & Evaluation

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AGENCY MANAGEMENT
Office of Policy, Planning and Evaluation

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
PROGRAM						
Program Management - Policy, Planning And Evaluation						
Salaries & Expenses		$913.7	$879.9	$884.6	$1,157.7	$273.1
	TOTAL	$913.7	$879.9	$884.6	$1,157.7	$273.1
Integrated Environmental Management Program						
Salaries & Expenses		$2,748.6	$2,805.2	$2,746.8		-$2,746.8
	TOTAL	$2,748.6	$2,805.2	$2,746.8		-$2,746.8
Office of Policy Analysis						
Salaries & Expenses		$8,001.0	$9,315.2	$8,872.9	$10,600.3	$1,727.4
Abatement Control and Compliance		$8,936.7	$10,522.8	$10,377.6	$6,924.1	-$3,453.5
	TOTAL	$16,937.7	$19,838.0	$19,250.5	$17,524.4	-$1,726.1
Office of Regulatory Management and Evaluation						
Salaries & Expenses		$5,215.7	$5,407.9	$5,334.9	$7,507.7	$2,172.8
Abatement Control and Compliance					$515.0	$515.0
	TOTAL	$5,215.7	$5,407.9	$5,334.9	$8,022.7	$2,687.8
Office of Pollution Prevention						
Salaries & Expenses		$2,788.3	$2,978.0	$3,096.6	$6,445.0	$3,348.4
Abatement Control and Compliance					$1,500.0	$1,500.0
	TOTAL	$2,788.3	$2,978.0	$3,096.6	$7,945.0	$4,848.4
Pollution Prevention Program						
Salaries & Expenses		$808.8	$1,101.4	$1,110.8		-$1,110.8
Abatement Control and Compliance		$2,056.9	$8,306.9	$8,200.8	$3,000.0	-$5,200.8
	TOTAL	$2,865.7	$9,408.3	$9,311.6	$3,000.0	-$6,311.6
TOTAL:						
Salaries & Expenses	TOTAL	$20,476.1	$22,487.6	$22,046.6	$25,710.7	$3,664.1
Abatement Control and Compliance	TOTAL	$10,993.6	$18,829.7	$18,578.4	$11,939.1	-$6,639.3
Office of Policy, Planning, & Evaluation	TOTAL	$31,469.7	$41,317.3	$40,625.0	$37,649.8	-$2,975.2

AGENCY MANAGEMENT
Office of Policy, Planning and Evaluation

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PERMANENT WORKYEARS					
Program Management - Policy, Planning And Evaluation	12.0	14.8	13.9	17.0	3.1
Integrated Environmental Management Program	12.6	18.9	16.0	0.0	-16.0
Office of Policy Analysis	55.1	67.3	55.8	93.2	37.4
Office of Regulatory Management and Evaluation	59.5	64.5	63.0	74.4	11.4
Office of Pollution Prevention	45.3	51.9	52.0	72.2	20.2
Pollution Prevention Program	8.3	18.7	9.7	0.0	-9.7
TOTAL PERMANENT WORKYEARS	192.8	236.1	210.4	256.8	46.4
TOTAL WORKYEARS					
Program Management - Policy, Planning And Evaluation	13.7	14.8	14.8	17.0	2.2
Integrated Environmental Management Program	17.3	18.9	18.9	0.0	-18.9
Office of Policy Analysis	60.0	67.3	61.1	93.2	32.1
Office of Regulatory Management and Evaluation	63.6	64.5	64.5	74.4	9.9
Office of Pollution Prevention	48.4	51.9	53.4	72.2	18.8
Pollution Prevention Program	8.8	18.7	9.7	0.0	-9.7
TOTAL WORKYEARS	211.8	236.1	222.4	256.8	34.4

MANAGEMENT AND SUPPORT

Agency Management

Office of Policy, Planning and Evaluation

Budget Request

The Agency requests a total of $37,649,800 supported by 256.8 total workyears for 1991, a decrease of $2,974,900 and an increase of 34.4 total workyears from 1990. Of the request $25,710,700 will be for the Salaries and Expenses appropriation and $11,939,100 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $3,664,100 in the Salaries and Expenses appropriation, and a decrease of $6,639,000 in the Abatement, Control and Compliance appropriation.

PROGRAM MANAGEMENT - POLICY, PLANNING AND EVALUATION

1991 Program Request

The Agency requests a total of $1,157,700 supported by 17.0 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $273,100 and an increase of 2.2 total workyears from 1990. The increase results from an Office of Policy, Planning and Evaluation (OPPE) reorganization and the one-time reductions in 1990 associated with the sequestration and Section 517.

This request will provide the Assistant Administrator (AA) with sufficient staff and resources for the policy direction, special analyses, human resources initiatives, and budgetary and administrative support necessary to manage OPPE and its component offices efficiently and effectively. It will allow the AA to respond to inquiries from Congress and the Office of Management and Budget as well as from the Regions, State, local governments, and the public on OPPE issues. It also will enable the Agency to prepare appropriate responses to General Accounting Office evaluations of EPA programs.

1990 Program

In 1990, the Agency is allocating a total of $884,600 supported by 14.8 total workyears for this program, all of which is from the Salaries and Expenses appropriation. This program is providing overall policy direction and conducting activities necessary to manage the component offices of OPPE.

1989 Accomplishments

In 1989, the Agency obligated a total of $913,700 supported by 13.7 total workyears for this program, all of which was from the Salaries and Expenses appropriation. These funds supported the basic budgetary, administrative, analytic, and planning activities necessary to manage OPPE.

INTEGRATED ENVIRONMENTAL MANAGEMENT PROGRAM (IEMP)

1991 Program Request

The Agency requests no dollars and no workyears for this program. This represents a decrease of $2,746,800 and a decrease of 18.9 total workyears from 1990. The decrease reflects an OPPE reorganization which moves the IEMP geographic integration function to the Office of Pollution Prevention (OPP) and the science policy function to the Office of Regulatory Management and Evaluation (ORME).

1990 Program

In 1990, the Agency is allocating a total of $2,746,800 supported by 18.9 total workyears for this program, all of which is from the Salaries and Expenses appropriation.

IEMP is disseminating the knowledge and experience from a limited number of completed state/Regional demonstration projects designed as models for transferring multi-media, risk-based environmental management methods to the states, Regions, and Indian tribes. Specific products include: state/Regional use of risk-based tools and integrated environmental management processes to set environmental action plans based on those priorities, and institutionalization of a negotiation process between state, Regional and national program managers which appropriately reflects an efficient balance of Federal/local partnership to address environmental issues and provide the basis for measuring the value of pollution control action.

IEMP also is concentrating on improving the links between scientific research and information needed for policy-making. It is sponsoring projects which expand risk analysis to account for ecological effects. The program works with other Agency offices to develop more realistic exposure data and exposure assumptions, and supports future regulatory activities such as management of contaminated sediments in near coastal waters and identification and assessment of the ecological impacts at Resource Conservation and Recovery Act (RCRA) waste sites. Finally, it works with program offices to develop better methods for evaluating the wide range of human health effects associated with subchronic exposures to pollution.

1989 Accomplishments

In 1989, the Agency obligated a total of $2,748,600 supported by 17.3 total workyears for this program, all of which was from the Salaries and Expenses appropriation.

IEMP completed a limited number of state and Regional demonstration projects designed as models for transferring multi-media, risk-based environmental management methods to the states and Regions. Non-participating states and Regions received some technical assistance. IEMP helped states and Regions to use risk analysis techniques and helped to improve the link between scientific research and policy-making. Projects included development of weight-of-evidence classification and potency estimation procedures for non-cancer effects; creation of classification schemes for addressing scientific uncertainty in cross-media comparative risk analysis; evaluation of available methods to

assess ecological risks and damages of toxic pollutants; and identification of biological parameters that can be used to define and project the effectiveness of EPA regulatory programs.

OFFICE OF POLICY ANALYSIS (OPA)

1991 Program Request

The Agency requests a total of $17,524,400 supported by 93.2 workyears for this program, of which $10,600,300 will be for the Salaries and Expenses appropriation and $6,924,100 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $1,727,400 and a decrease of $3,453,300, respectively and an increase of 32.1 total workyears from 1990. The increases in Salaries and Expenses result from expanded efforts in global climate change, Clean Air Act implementation, and RCRA reauthorization studies as well as the one-time reductions in 1990 associated with the sequestration and Section 517. Additionally, OPA receives the new responsibilities of pesticides and toxic substances regulatory review and analysis, regulatory innovations, and energy policy analysis due to an OPPE reorganization. Benefits analysis and the economic research and risk communication programs move to ORME. The decrease in Abatement, Control and Compliance reflects the one-time cost associated with the 1990 Congressional add-on for climate change policy analyses. This level provides the necessary funding for climate activities.

OPA will use these resources to analyze EPA's highest priority regulatory actions and non-regulatory initiatives, focussing particularly on issues identified as posing high risks to health, environment and public welfare. OPA coordinates the Agency's activities on global climate change and directs its policy program, working closely with the Offices of Research and Development (ORD), Air and Radiation (OAR), and International Activities (OIA). It will concentrate on developing policy options for mitigating and adapting to climate change. OPA will support impact analyses and adaptive strategies in the United States, work with four international impacts studies, and assess domestic and international energy, forestry, and agriculture options for limiting emissions. The program also will support the Intergovernmental Panel on Climate Change (IPCC) process by preparing technical papers, conducting modeling analyses, and organizing a series of workshops. This analytical support will increase as the process of developing a climate convention continues in 1991-1992.

In the air media, OPA will focus on Clean Air Act implementation, with special emphasis on air toxics, acid rain and nonattainment. OPA will undertake a major effort to assist the Department of Energy in developing a National Energy Strategy, examining the Administration's policies towards energy conservation and corporate average fuel economy standards. The water media will see OPA analyzing possible amendments to the Clean Water Act and assisting in the analysis and implementation of the EPA Ground-water Strategy and water conservation policies. OPA will develop and implement cooperative programs with the U.S. Fish and Wildlife Service and other parts of the Department of Interior aimed at protecting and restoring ecological values. OPA will work with the Department of Agriculture (USDA) to develop implementation procedures for the 1990 Farm Bill, including Low Input Sustainable Agriculture practices and other pollution prevention measures for agriculture. For RCRA reauthorization, OPA will continue to provide input and analysis, playing a major role in industrial

waste pollution prevention and economic incentives, comparative risks on Subtitle D, and financial responsibility. OPA will provide policy analysis review of pesticides usage, with a focus on quality and use of food residue data, cost risk analyses of pesticides and risk substitutes, and implementation of the Pesticides in Ground-water Strategy. In the toxic substances area, OPA will review regulatory activities, monitor the new chemicals program, and analyze such cross-media issues as lead.

1990 Program

In 1990, the Agency is allocating a total of $19,250,500 supported by 61.1 total workyears for this program, of which $8,872,900 is from the Salaries and Expenses appropriation and $10,377,600 is from the Abatement, Control and Compliance appropriation.

With these resources, OPA is analyzing proposed Clean Air Act amendments, implementation of the State Clean Water Strategy, the EPA Ground-water Strategy, and oceans initiatives and coordination of water and hazardous waste policies, RCRA reauthorization, Subtitle C, Subtitle D and corrective action programs. OPA continues to perform economic analyses with emphasis on use of benefit/cost evaluations in state water quality reports and on impacts of EPA regulations on different sectors of the economy. The Economic Research Program is determining economic damages to materials and waterbodies from acid precipitation, and the economic value of ground-water protection. OPA is working to improve integration of agricultural and environmental policies through review of the Food and Drug Administration and USDA and Interior regulations and review of their agriculture legislative proposals. OPA also is helping USDA implement aspects of the Conservation Reserve Program. Work on risk assessment/management/communication is focussing on training for EPA staff; technical assistance to program and Regional offices; and support to the Risk Assessment Council, the Risk Assessment Forum and the Center for Risk Management.

OPA has the lead responsibility for important aspects of an expanded Agency global climate change program, working closely with Agency programs and interagency groups. It is building on the reports to Congress, working with and integrating other EPA activities, positioning the Agency to evaluate all policy options, and providing stimulus to expand international understanding and involvement in response to strategy issues. Primary activities involve data gathering, analysis of reduction strategies, and conduct of policy analyses.

1989 Accomplishments

In 1989, the Agency obligated a total of $16,937,700 supported by 60.0 total workyears for this program, of which $8,001,000 was from the Salaries and Expenses appropriation and $8,936,700 was from the Abatement, Control and Compliance appropriation.

OPA analyzed EPA's highest priority regulatory actions and non-regulatory initiatives, which included policy implications of the National Acid Precipitation Program's final report, implementation issues for the chlorofluorocarbons control and tropospheric ozone problems, integrated water quality-based targeting strategy implementation, and cross-media impacts of solid wastes, hazardous substances and industrial wastes under Subtitle D. Benefit/cost analyses required under Executive Order 12291 continued in all program areas and the

Economic Research Program helped to develop new analytical methods to improve risk management. Work on risk assessment/management/communication focussed on training for EPA staff and technical assistance to program and Regional offices as well as support for the Center for Risk Management.

In the area of global climate change, OPA worked closely with ORD and OAR to complete and follow up on two major reports to Congress: "Policy Options for Stabilizing Climate" and the "Environmental Effects of Climate Change." OPA also worked with other agencies and organizations on climate issues, representing EPA in the Interagency National Climate Program and at conferences sponsored by the World Meteorological Organization and United Nations Environmental Programme. It refined the analytical framework for analyzing stabilization, building modeling systems for effects, and studying adaptive responses.

OFFICE OF REGULATORY MANAGEMENT AND EVALUATION (ORME)

1991 Program Request

The Agency requests a total of $8,022,700 supported by 74.4 total workyears for this program, of which $7,507,700 will be for the Salaries and Expenses appropriation and $515,000 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $2,172,800 and an increase of $515,000 respectively, and an increase of 9.9 total workyears from 1990. The increases in Salaries and Expenses and in Abatement, Control and Compliance reflect initiation of a new statistical program as well as the one-time reductions in 1990 associated with the sequestration and Section 517. Additionally ORME receives the new responsibilities of science policy integration, benefits analysis, economic research, risk communication activities and program evaluation due to an OPPE reorganization. The pesticides and toxic substances regulatory review functions move to OPA and regulatory innovations staff are divided between OPA and OPP.

ORME will manage the Agency's internal regulation review and analysis process, provide quality control and clearance for all EPA reporting and recordkeeping required of the public, and review regulatory and policy documents for compliance with all applicable requirements. It will provide the regulation development curriculum to program offices and Regions and will provide training/support for workgroup chairmen. Promotion of negotiation as an alternative to traditional rulemaking and faster use of consensus-building techniques in dispute resolution will continue. Science policy staff will support Agency-wide efforts to ensure quality and consistency in ecological and health risk assessments and explore new areas for contributions to environmental protection such as sustainable use of environmental resources, ecosystem valuation and the development of ecological guidelines. Program evaluation staff will undertake analytical studies to identify practical solutions to problems impeding effective implementation of EPA programs in areas such as permitting, compliance monitoring and environmental monitoring and will examine the effectiveness of Headquarters' actions on Regional and state activities in selected programs. ORME will assist program offices in the preparation of Regulatory Impact Analyses and conduct special economic analysis on financing, economic incentives and sustainable economic development. It also will manage the economic research and risk communication programs. Work on risk communication will focus on training for EPA staff and technical assistance to programs and Regional offices.

1990 Program

See Office of Standards and Regulations.

1989 Accomplishments

See Office of Standards and Regulations.

OFFICE OF STANDARDS AND REGULATIONS (OSR)

1991 Program Request

See the Office of Regulatory Management and Evaluation

1990 Program

In 1990 the Agency is allocating a total of $5,334,900 supported by 64.5 workyears for this program, all of which is from the Salaries and Expenses appropriation.

OSR continues to administer the Agency's internal regulation review and analysis process. It reviews regulatory and policy documents for compliance with all applicable requirements and ensures Agency compliance with the amended Paperwork Reduction Act (PRA). OSR is beginning development of a new statistical program, identifying the statistical quality and credibility of accessible environmental data for use in a proposed national compendium of environmental statistics. Support for the Office of Pesticides and Toxic Substances emphasizes policy development and oversight of EPA's biotechnology program and moves toward resolution of indemnification issues and problems associated with disposal of cancelled pesticides.

1989 Accomplishments

In 1989, the Agency obligated a total of $5,215,700 supported by 63.6 total workyears for this program, all of which was from the Salaries and Expenses appropriation.

OSR continued to administer and direct the Agency's internal regulation review and analysis process and to ensure compliance with the PRA. OSR expanded its regulation development course audience to include the Regions and additional program offices. In preparing for the new statistical program, OSR identified the major Federal data bases where environmental data are available. It assisted enforcement offices in developing optional enforcement inspection strategies and supported implementation of Data Quality Objectives. OSR promoted use of consultation and consensual activities in issue resolution, decisionmaking and negotiation. Regulatory innovation focussed on technical assistance to Regions/states in identifying and controlling nonpoint sources of pollution and in identification and promotion of integrated waste management alternatives to reduce waste. Pesticides support emphasized assistance in meeting demands of the 1988 amendments to the Federal Insecticide, Fungicide and Rodenticide Act, and analyses in the area of toxic substances concentrated on development of an Agency policy in testing chemicals.

OFFICE OF POLLUTION PREVENTION (OPP)

1991 Program Request

The Agency requests a total of $7,945,000 and 72.2 total workyears for this program, of which $6,445,000 will be for the Salaries and Expenses appropriation and $1,500,00 will be for the Abatement, Control and Compliance appropriation. This represents an increase of $3,348,400 and an increase of $1,500,000 respectively and an increase of 18.8 total workyears from 1990. The increases in Salaries and Expenses and in Abatement, Control and Compliance reflect expanded efforts in pollution prevention and strategic planning as well as the one-time reductions in 1990 associated with sequestration and Section 517. Additionally, OPP receives the new responsibilities of geographic integration, and regulatory innovations due to an OPPE reorganization. The program evaluation function moves to ORME.

In 1991, OPP will continue to mobilize Federal leadership and manage the Agency's pollution prevention program. Cross-media initiatives will target application of pollution prevention approaches and incentives to industrial toxics, nonpoint source problems, and energy and transportation-related environmental issues. The Office will complete pollution prevention-based studies of regulatory issues related to RCRA, the new Clean Air Act, and the Clean Water Act, and will integrate the study findings into OPPE's regulatory review functions. Demonstrations of pollution prevention applications in enforcement and water permitting activities will be completed. Analyses and implementation-oriented demonstration projects (e.g., education, labelling) aimed at altering consumer behavior will produce findings and recommendations transferrable to broader audiences. OPP will sponsor a state and local conference to publicize the results of the state pollution prevention grants program. Analysis of data from the Toxics Release Inventory and other Agency databases will continue in order to identify future pollution prevention targets, as well as to develop a future strategy for data collection and use for pollution prevention. A national Pollution Prevention Awards program will acknowledge state, community and industry leaders in this area.

OPP will continue to support the Agency's planning and performance measurement management systems. In addition, OPP will expand the 4-year strategic planning program to include cross-media service organizations (ORD, OIA and the Office of Enforcement and Compliance Monitoring), cross-media programs (e.g., global climate, pollution prevention), and Regional offices along with the four media offices. OPP will develop an Agency-wide strategic plan and complete a system for connecting planning priority decisions to budget distribution. It will analyze environmental indicators contained in the strategic plans and begin media-specific studies designed to develop stronger indicators of true environmental benefit. The Office will provide support to all ten Regions for comparative risk analyses and resulting Regional strategic options development will continue, with plans which reflect Region-specific exceptions to the national strategic plans produced. OPP will expand technical, methodological and analytical assistance to states for strategic planning and environmental indicator development, resulting in clear strategies to target the worst environmental problems more effectively, apply pollution prevention approaches more aggressively, and leverage the Federal/local partnership more efficiently. Finally, the legislative planning staff will develop ideas for improvements in the present statutory framework.

1990 Program

See the Office of Management Systems and Evaluation.

1989 Accomplishments

See the Office of Management Systems and Evaluation.

OFFICE OF MANAGEMENT SYSTEMS AND EVALUATION (OMSE)

1991 Program Request

See the Office of Pollution Prevention.

1990 Program Request

In 1990, the Agency is allocating a total of $3,096,600 supported by 53.4 total workyears for this program, all of which is from the Salaries and Expenses appropriation.

Improvements in EPA's management systems are focusing on developing strategies for EPA programs that define specific environmental goals that can be tracked over time. In addition to work on selected programs' strategies, OMSE is working with the hazardous waste, ground-water, nonpoint source, and pollution prevention programs to define appropriate environmental indicators that complement the programs' goals. The Office is focussing on improving EPA's priority-setting process and linking budget decisions more closely with health and environmental priorities by designing and managing a 4-year strategic planning effort. Four national strategic plans for the media Offices of Water, Air, Pesticides and Toxic Substances, and Solid Waste and Emergency Response and three Regional risk management strategies are being finalized as part of this process. The Office is completing a project involving three states in Region X related to the vulnerability of ground-water to pesticides contamination. Program evaluation projects include problem assessments and problem-solving efforts in several EPA program areas, including municipal and other solid waste, air toxics, ground-water contamination, and infectious waste, as well as reviews of state/EPA interactions in selected programs. In addition, the legislative planning staff is developing ideas for changes in the agency's statutory framework. In particular, pollution prevention legislation and RCRA reauthorization work is beginning.

1989 Accomplishments

In 1989, the Agency obligated $2,788,300 supported by 48.4 total workyears, all of which was from the Salaries and Expenses appropriation.

OMSE managed the Agency's planning and management system and adapted it to meet new management objectives. OMSE supported development of an Agencywide strategy that articulated both management and environmental goals for each major program and enabled the Administrator to track progress over time and evaluate the effectiveness of the programs. OMSE demonstrated and promoted ways to use existing environmental data for problem assessment, priority-setting, and program evaluation at national, Regional and local levels and conducted a seminar on

effective ways to manage for environmental results. OMSE also completed a demonstration project in Oregon to test ways to improve the use of environmental information in decisions concerning water resources. In addition, OMSE began a project with three states in Region X to assess vulnerability of ground-water to pesticides contamination. Evaluation projects included the development and evaluation of inexpensive methods of motivating people to test their homes for radon, an effort to define the roles of Headquarters and Regional offices in implementing the Pesticides in Ground-water Strategy, an examination of the process by which Federal agencies report funding for pollution abatement and clean-up projects, and an evaluation of a pilot test of differential oversight in the National Pollutant Discharge Elimination System program under the Clean Water Act.

POLLUTION PREVENTION PROGRAM (PPP) (GRANTS)

1991 Program Request

The Agency requests a total of $3,000,000 for this program, all of which will be for the Abatement, Control and Compliance appropriation. This represents a technical decrease of $1,110,800 in Salaries and Expenses, a decrease of $5,200,800 in Abatement Control and Compliance, and a decrease of 9.7 total workyears from 1990. The decreases in Salaries and Expenses and Abatement, Control and Compliance reflect an OPPE reorganization in which personnel and support costs for pollution prevention move to OPP, leaving the PPP budget devoted solely to state grants. Abatement, Control and Compliance is further reduced due to the one-time cost associated with the 1990 Congressional add-on for pollution prevention state grants. This level provides the necessary funding for this program.

In 1991, these resources will fund approximately 14 new state pollution prevention demonstration programs. These demonstration programs will provide innovative pollution prevention applications for specific industries, geographic environments, or pollutants that are transferrable to states and localities. Awards will be made on the basis of a competitive process to assure that dollars are distributed to the most promising and most effective pollution prevention efforts. Evaluations of these grants and a state conference intended to display the results will be funded by OPP.

1990 Program

In 1990, the Agency is allocating a total of $9,311,600 supported by 9.7 total workyears for this program, of which $1,110,800 is from the Salaries and Expenses appropriation and $8,200,800 is from the Abatement, Control and Compliance appropriation.

PPP continues to pursue the four goals identified and initiated in 1989, but with a more focussed agenda. Agency products include availability of information through a national clearinghouse and a hotline on technologies, substitutions, and documentation of approaches that are known to be effective for specific industries and facilities as well as recommendations on how to create additional incentives for pollution prevention and how to eliminate existing barriers. Support of state pollution prevention programs through the distribution of multi-media grants continues. In addition, the program is

evaluating existing state pollution prevention programs to be used by the states and EPA as a future planning and priority-setting tool. The program also continues to work on developing reliable indicators of waste reduction and pollution prevention.

It is beginning to use data collected from the Superfund Amendments and Reauthorization Act, section 313, and from other Agency data bases to identify national trends and to target areas of opportunity.

1989 Accomplishments

In 1989, the Agency obligated $2,865,700 supported by 8.8 total workyears, of which $808,800 was from the Salaries and Expenses appropriation and $2,056,900 was from the Abatement, Control and Compliance appropriation.

PPP worked to meet four specific goals: (1) communicating to state and local governments, industry, public interest groups, citizen groups, Congress, Federal agencies and other appropriate organizations the need for and capability to achieve pollution prevention and source reduction initiatives; (2) developing a multi-media approach through regulatory review of incentives and disincentives for pollution prevention and through creation of media-specific pollution prevention plans; (3) encouraging state and local programs through distribution of grant dollars to state programs to support state pollution prevention programs and through creation of networks of technical experts available to local governments; and (4) evaluating progress and targeting opportunities through development of reliable indicators of pollution prevention and implementation of a data collection strategy. Products of this first year's work included the development of a series of media-specific pollution prevention strategies which tied the four objectives together, the awarding through competitive processes of grant dollars to 14 states and the distribution of projected funds for innovative pollution prevention initiatives to be implemented in 1991 by EPA Headquarters and Regional offices.

Office of Administration and Resources Management

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

Table of Contents

AGENCY MANAGEMENT
Office of Administration and Resources Management

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
			(DOLLARS IN THOUSANDS)			
PROGRAM						
Program Management - Administration						
Salaries & Expenses		$1,949.8	$1,472.1	$1,382.9	$1,577.1	$194.2
	TOTAL	$1,949.8	$1,472.1	$1,382.9	$1,577.1	$194.2
Financial Management Headquarters						
Salaries & Expenses		$8,363.2	$7,502.4	$7,528.6	$9,454.7	$1,926.1
	TOTAL	$8,363.2	$7,502.4	$7,528.6	$9,454.7	$1,926.1
Office of the Comptroller						
Salaries & Expenses		$5,074.9	$6,104.7	$5,978.2	$7,133.3	$1,155.1
Abatement Control and Compliance		$120.0	$455.7	$648.4	$2,349.4	$1,701.0
	TOTAL	$5,194.9	$6,560.4	$6,626.6	$9,482.7	$2,856.1
Contracts and Grants Management						
Salaries & Expenses		$11,224.4	$11,333.4	$11,886.9	$13,613.7	$1,726.8
	TOTAL	$11,224.4	$11,333.4	$11,886.9	$13,613.7	$1,726.8
Organization and Health Services						
Salaries & Expenses		$2,440.5	$2,781.1	$2,747.5	$3,135.8	$388.3
	TOTAL	$2,440.5	$2,781.1	$2,747.5	$3,135.8	$388.3
Facilities & Management Services						
Salaries & Expenses		$7,532.1	$7,861.5	$7,675.3	$8,335.4	$660.1
	TOTAL	$7,532.1	$7,861.5	$7,675.3	$8,335.4	$660.1
Information Systems & Services						
Salaries & Expenses		$9,575.5	$9,800.3	$10,551.9	$11,727.4	$1,175.5
Abatement Control and Compliance			$977.1	$865.2	$1,000.0	$134.8
	TOTAL	$9,575.5	$10,777.4	$11,417.1	$12,727.4	$1,310.3
Office of Human Resources Management						
Salaries & Expenses		$8,558.9	$9,117.2	$9,014.0	$9,375.5	$361.5
	TOTAL	$8,558.9	$9,117.2	$9,014.0	$9,375.5	$361.5
TOTAL:						
Salaries & Expenses	TOTAL	$54,719.3	$55,972.7	$56,765.3	$64,352.9	$7,587.6
Abatement Control and Compliance	TOTAL	$120.0	$1,432.8	$1,513.6	$3,349.4	$1,835.8
Office of Administration and Resources Management	TOTAL	$54,839.3	$57,405.5	$58,278.9	$67,702.3	$9,423.4

AGENCY MANAGEMENT
Office of Administration and Resources Management

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PERMANENT WORKYEARS					
Program Management - Administration	24.6	24.8	20.8	23.9	3.1
Financial Management Headquarters	133.0	140.8	131.1	140.0	8.9
Office of the Comptroller	77.0	84.6	81.6	84.4	2.8
Contracts and Grants Management	218.2	240.0	237.5	255.5	18.0
Organization and Health Services	37.7	46.5	47.8	50.4	2.6
Facilities & Management Services	164.5	177.2	167.0	181.2	14.2
Information Systems & Services	151.8	164.3	168.3	178.9	10.6
Office of Human Resources Management	159.7	178.9	165.8	180.4	14.6
TOTAL PERMANENT WORKYEARS	996.5	1,057.1	1,019.9	1,094.7	74.8
TOTAL WORKYEARS					
Program Management - Administration	27.9	24.8	21.5	23.9	2.4
Financial Management Headquarters	136.4	140.8	136.4	140.0	3.6
Office of the Comptroller	79.7	84.6	83.6	84.4	.8
Contracts and Grants Management	222.5	240.0	241.7	255.5	13.8
Organization and Health Services	41.1	46.5	47.8	50.4	2.6
Facilities & Management Services	174.3	177.2	174.0	181.2	7.2
Information Systems & Services	159.6	164.3	173.1	178.9	5.8
Office of Human Resources Management	169.7	178.9	178.7	180.4	1.7
TOTAL WORKYEARS	1,011.2	1,057.1	1,056.8	1,094.7	37.9

MANAGEMENT AND SUPPORT

Agency Management

Office of Administration and Resources Management

Budget Request

The Agency requests a total of $67,702,300 supported by 1094.7 total workyears for 1991, an increase of $9,423,400 and an increase of 37.9 total workyears from 1990.

PROGRAM MANAGEMENT - ADMINISTRATION

1991 Program Request

The Agency requests a total of $1,577,100 supported by 23.9 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. Total workyears will include 21.9 from the Salaries and expenses appropriation and 2.0 from the Reregistration and Expedited Processing Revolving Fund. This represents an increase of $194,200 and .4 in total workyears in the Salaries and Expenses appropriation and an increase of 2.0 total workyears in the Reregistration and Expedited Processing Revolving Fund. The increase in Salaries and Expenses reflects increased personnel and support costs. In 1991, the office will continue to provide guidance and direction as well as program and administrative support for OARM, direct and manage OARM's resources, administer and report on OARM's portion of the Administrator's Action Tracking System (ATS) and the Strategic Targeted Activities for Results System (STARS), and conduct strategies to enhance the efficiency and effectiveness of the Agency. This office will also coordinate and consolidate OARM's internal control reporting, ensure compliance with the Freedom of Information Act and Agency audit recommendations, and oversee OARM information management needs.

1990 Program

In 1990, the Agency is allocating a total of $1,382,900 supported by 21.5 total workyears for this program, all of which is from the Salaries and Expenses appropriation. These resources are used for overall policy direction and guidance to the Agency's management programs, budget development and execution, review of organization and consolidation issues, internal control reporting, Freedom of Information Act coordination, ATS and STARS reporting, and special analyses on management issues.

1989 Accomplishments

In 1989,the Agency obligated a total of $1,949,800 supported by 27.9 total workyears for this program all of which was from the Salaries and Expenses appropriation. These resources were used to provide office-wide management and policy direction, manage the development and execution of OARM's budget, provide Action Tracking and Strategic Planning and Management reports, coordinate internal control reporting and responses to Freedom of Information Act requests, and conduct special analyses and projects on Agency-wide management issues.

FINANCIAL MANAGEMENT - HEADQUARTERS

1991 Program Request

The Agency requests a total of $9,454,700 supported by 140.0 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. Total workyears will include 139.5 from the Salaries and Expenses appropriation and .5 from the Reregistration and Expedited Processing Revolving Fund. This represents an increase of $1,926,100 and 4.0 in total workyears from the Salaries and Expenses appropriation and a decrease of .4 total workyears from the Reregistration and Expedited Processing Revolving Fund. The increase in Salaries and Expenses reflects increased personnel and support costs and provides for financial management initiatives due to increased audit activities. The increase in workyears will provide for financial integrity activities. The office's major priority for 1991 is to provide enhancements to the Integrated Financial Management System to meet Agency reporting requirements and integrate administrative systems in support of OMB Circular A-127. These enhancements will require additional data analysis, module testing, policies and procedures, contract management support, and training of Headquarters and Regional staff. Other initiatives include: (1) Strengthening the financial integrity of basic operations by supporting initiatives that improve the delivery of financial services to clients and implement strong quality assurance for all functions and locations; (2) Improving analytic and reporting capabilities by developing a program directed at improving financial data analysis and enhancing reporting capabilities; (3) Maintaining a long range strategic planning program to enable the division to identify future objectives and achieve them in a planned and logical manner; and (4) Increasing quality assurance reviews to improve financial integrity. This request will also allow Headquarters, Cincinnati, Las Vegas and Research Triangle Park offices to provide necessary financial accounting and fiscal services.

1990 Program

In 1990, the Agency is allocating a total of $7,528,600 supported by 136.4 total workyears for this program, all of which is from the Salaries and Expenses appropriation. Total workyears include 135.5 from the Salaries and Expenses appropriation and .9 total workyears from the Reregistration and Expedited Processing Revolving Fund. These resources provide a full array of financial services to EPA managers, including: payroll, accounting, debt collection, accounts payable and policy guidance. This program also manages the Agency's Integrated Financial Management System. The 1990 program emphasis is on implementing the Office of Management and Budget's Circular A-127 requirements, implementing Section 4 of the Federal Managers' Financial Integrity Act of 1982, implementing a new ad hoc report writer, increasing the timeliness of payments processed as required by the Prompt Payment Act, exploring further cash management initiatives, and bringing the Integrated Financial Management System into full compliance with General Accounting Office standards.

1989 Accomplishments

In 1989, the Agency obligated a total of $8,363,200 supported by 136.4 total workyears, all of which was from the Salaries and Expenses appropriation. Total workyears included 136.3 from the Salaries and Expenses appropriation and .1 from the Reregistration and Expedited Processing Revolving Fund. With these resources, the Agency improved the financial services provided by Headquarters and Research Triangle Park financial operations, developed standard quality assurance programs for the Agency, implemented and developed a long-term planning process for the Integrated Financial Management System, and transferred the software programs to operate the Integrated Financial Management System at the National Computer Center.

OFFICE OF THE COMPTROLLER

1991 Program Request

The Agency requests a total of $9,482,700 supported by 84.4 total workyears for this program. Total dollars will include $7,133,300 for the Salaries and Expenses appropriation and $2,349,400 for the Abatement Control and Compliance appropriation. Total workyears will include 83.4 from the Salaries and Expenses appropriation and 1.0 from the Reregistration and Expedited Processing Revolving Fund. This represents an increase of $1,155,100 in the Salaries and Expenses appropriation, an increase of $1,701,000 in the Abatement Control and Compliance appropriation and an increase of .8 total workyears in the Reregistration and Expedited Processing Revolving Fund. The increase in Salaries and Expenses reflects increased personnel and support costs. The increase in Abatement Control and Compliance will support P3 activities, management integrity, and Agency program management needs. We will continue implementation of OMB Circular A-127, a major initiative which will integrate and improve the Agency's financial management systems, support the Agency's Public-Private Partnership (P3) efforts, and enhance the level of support for the Agency's productivity activities.

These resources will provide the Office of the Comptroller with the capabilities to perform all mandatory activities associated with OMB and Congressional budget submissions for 1992 and 1993, provide budget analyses and reports to Agency program offices through the Resource Planning and Budgeting System, and maintain an allocation, control and review system for all workyear and financial resources. The office will continue its focus on maintaining EPA's Productivity Improvement Program, which will reduce costs and enhance program effectiveness across the Agency. The Comptroller will also continue to implement the Federal Managers' Financial Integrity Act, and implement OMB Circular A-76.

1990 Program

In 1990, the Agency, is allocating a total of $6,626,600 supported by 83.6 total workyears for this program, of which $5,978,200 is from the Salaries and Expenses appropriation and $648,400 is from the Abatement Control and Compliance appropriation. Total workyears include 83.4 from the Salaries and Expenses appropriation and .2 from the Reregistration and Expedited Processing Revolving Fund. With these resources the Office of the Comptroller prepares the 1991

budget request, develops current and outyear budget guidance to program and Regional offices, analyzes budget issues, develops and implements Agency budget policy, and administers and provides policy guidance to EPA managers on a range of fiscal concerns.

1989 Accomplishments

In 1989, the Agency obligated a total of $5,194,900 supported by 79.7 total workyears for this program, of which $5,074,900 was from the Salaries and Expenses appropriation and $120,000 from the Abatement Control and Compliance appropriation. With these resources, this program managed the development of the 1990 Operating Plans, provided budget and policy guidance to Program and Regional offices for the 1991 budget requests, performed oversight of audit resolution and follow-up, implemented the Federal Managers' Financial Integrity Act, and continued EPA's Productivity Improvement Program.

CONTRACTS AND GRANTS MANAGEMENT - HEADQUARTERS

1991 Program Request

The Agency requests a total of $13,613,700 supported by 255.5 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. Total workyears will include 251.0 from the Salaries and Expenses appropriation and 4.5 from the Reregistration and Expedited Processing Revolving Fund. This represents an increase of $1,726,800 and 10.0 total workyears in the Salaries and Expenses appropriation and an increase of 3.8 total workyears from the Reregistration and Expedited Processing Revolving Fund. The increase in workyears will fund growing contract placement and grant management needs as a result of FIFRA and the Clean Air Act and support Financial Integrity activities. The request will enable the Agency to process and award new contracts and purchase orders, manage and close out existing contracts, train project officers and contracting officers, evaluate contractor cost proposals, process contract terminations and claims, and provide technical review, policy guidance, and administrative oversight and management to the three procurement operations in Headquarters, Cincinnati, and Research Triangle Park (RTP). In the grants area, resources will allow the Agency to develop and interpret regulations, policy and procedural guidance for new and existing Agency-wide assistance programs; award and administer Headquarters grants and loans, cooperative agreements, and interagency agreements; provide outreach to the Regions, states and Federal assistance recipients; continue to modify, update, and simplify assistance regulations; continue in-house audit and cost analyses; increase suspension and debarment actions to combat waste, fraud and abuse in Federal assistance and procurement programs; implement the Clean Air Act Amendments and enhance the role of the Agency's Grants Information System Management Council.

1990 Program

In 1990, the Agency is allocating a total of $11,886,900 supported by 241.7 total workyears for this program, all of which is from the Salaries and Expenses appropriation. Total workyears include 241.0 from the Salaries and Expenses appropriation and .7 from the Reregistration and Expedited Processing Revolving Fund. These resources are being used to perform a full range of grants

and contract activities including awarding and managing contracts, grants, loans, purchase orders, and interagency agreements. This also includes negotiating indirect cost rates, processing terminations and claims, managing procurement operations at Headquarters, Cincinnati and RTP, publishing a government-wide consolidated debarment regulation, developing suspension and debarment cases under the EPA assistance and procurement program, strengthening internal grant management controls, building Region/state/recipient capacity, addressing regulation and policy development, continuing to implement the new State Revolving Fund policy, finalizing the implementation of a new automated assistance document system, developing an automated Congressional Notification System, and providing project and contracting officer training.

1989 Accomplishments

In 1989, the Agency allocated a total of $11,224,400 supported by 222.5 total workyears for this program, all of which was from the Salaries and Expenses appropriation. The major accomplishments in this program area included increased emphasis on contract management, continued implementation of the Federal Acquisition Regulation, improvement of the contract planning system and automated procurement and grants document systems, issuance of additional awards for the Asbestos School Hazard Abatement Program, development of a Grants Information System Management Council and the implementation of an automated grant document system in the Regions. We also published the Drug Free Workplace Act Regulations, took noncompliance actions and recovered Federal funds from program participants who abused the privileges of Federal assistance, and developed and issued policy and guidance for the State Revolving Fund.

ORGANIZATION AND HEALTH SERVICES

1991 Program Request

The Agency requests a total of $3,135,800 supported by 50.4 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $388,300 and 3.0 total workyears in the Salaries and Expenses appropriation and a decrease of .4 total workyears in the Reregistration and Expedited Processing Revolving Fund. The increase in the Salaries and Expenses reflects increased personnel and support costs. The increase in workyears will expand our health and safety and environmental compliance activities. The Agency will continue to coordinate the management of the planning, design, construction and move processes for a new consolidated Agency headquarters, and focus on construction planning and coordination. Particular emphasis will be placed on interior/exterior design monitoring as well as developing a management oversight mechanism. Our environmental compliance program will continue to perform audits and provide technical assistance and training to Agency laboratories. Waste minimization will be a new area receiving emphasis. Our health and safety program will continue to monitor Agency workspace for safe and healthful working conditions and provide technical assistance and training. In addition, we will expand our efforts to ensure that Agency organizations, management systems and processes are as efficient and effective as possible by conducting management and organization analytical studies; overseeing the Agency's directives systems; managing the development and review of Agency-wide delegations of authority and reorganizations; managing

the Agency's public advisory committees; administering management advisory and support services contracts; and providing technical assistance on management and organization issues.

1990 Program

In 1990 the Agency is allocating a total of $2,747,500 supported by 47.8 total workyears for this program, all of which is from the Salaries and Expenses appropriation. Total workyears include 47.4 from the Salaries and Expenses appropriation and .4 from the Reregistration and Expedited Processing Revolving Fund. These resources provide high quality management assistance to all Agency organizations. We will design an automated Agency directives system to provide current information essential to the Agency's evolving mission. Management assistance will enable the Agency to respond to complex environmental issues such as source reduction, technology transfer, and alternative financing mechanisms. Delegations of authority and organizational analyses will strive towards strengthening management processes and streamlining organizations. Planning for the new headquarters facility will involve identification of a developer who best meets the Agency's functional requirements. Resources will be devoted to refining specific evaluation criteria, conducting detailed evaluation of developer proposals and completing specific site analyses. An environmental compliance manual and model program will be established for Agency laboratories. Environmental compliance audits will focus on Agency laboratories with prior problems. Our health and safety program will concentrate on improving the indoor air quality of our facilities, implementing and monitoring asbestos operations and maintenance programs, and reviewing the drinking water in our facilities to ensure safe levels of lead.

1989 Accomplishments

In 1989, the Agency obligated a total of $2,440,500 supported by 41.1 total workyears for this program, all of which was from the Salaries and Expenses appropriation. A comprehensive review of EPA's organizational history, legislative responsibilities, and priorities was prepared to facilitate the management transition to the incoming Administration. Management and contract assistance resulted in a series of organizational and management improvements for Agency responsibilities required by current and new environmental legislation. Additionally, technical support resulted in the establishment of five new Agency advisory committees. The planning process for the new headquarters facility involved refinement of previously established technical requirements incorporating a number of environmental considerations, including pollution prevention, energy conservation and indoor air quality. Environmental compliance program evaluation, training and technical support was provided to our laboratories, and Agency health and safety programs were reviewed.

FACILITIES AND MANAGEMENT SERVICES

1991 Program Request

The Agency requests a total of $8,335,400 supported by 181.2 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. Total workyears include 179.7 from the Salaries and Expenses appropriation and 1.5 total workyears from the Reregistration and Expedited

Processing Revolving Fund. This represents an increase of $660,100 and 7.0 total workyears in the Salaries and Expenses appropriation and .2 total workyears in the Reregistration and Expedited Processing Revolving Fund. The increase in Salaries and Expenses reflects increased personnel and support costs. The increase in workyears will fund facility management needs as a result of the Clean Air Act and provide for a Health and Safety Officer in Cincinnati. With these resources the Agency will administer the Nationwide Support, Headquarters Support, and Buildings and Facilities budgets, provide operational support and housekeeping services, and monitor and direct contractor resources under support contracts, with particular efforts to improve working conditions at the Waterside Mall Complex.

1990 Program

In 1990, the Agency is allocating a total of $7,675,300 supported by 174.0 total workyears for this program, all of which is from the Salaries and Expenses appropriation. Total workyears include 172.7 from the Salaries and Expenses appropriation and 1.3 total workyears from the Reregistration and Expedited Processing Revolving Fund. These funds are being used to provide timely, high quality and cost effective facilities management and support services for EPA facilities in Washington, Research Triangle Park (RTP), North Carolina and Cincinnati, Ohio. These resources provide on-going services in the areas of property and space management, operational services, office support services, real estate and lease enforcement support, transportation management, printing and publication operations, security services, and facilities design and construction management. We are also expanding our improvement efforts at the Waterside Mall Complex.

1989 Accomplishments

In 1989, the Agency obligated a total of $7,532,100 supported by 174.3 total workyears for this program, all of which was from the Salaries and Expenses appropriation. With these resources the Agency provided responsive facilities management services to EPA facilities in Washington, RTP and Cincinnati, established better administrative controls over property management, and effectively managed space needs. We also initiated planning for the new Headquarters facility, improved ventilation throughout Waterside Mall and provided effective security services. This program supervised the design and construction of a new water quality monitoring field station in Newport, Oregon; the design of the clinical inhalation research lab in Chapel Hill, North Carolina; the construction of the radiation laboratory in Montgomery, Alabama; the design of the new Biotechnology Lab in Gulf Breeze, Florida; and the design of the Edison, New Jersey Laboratory.

INFORMATION SYSTEMS AND SERVICES

1991 Program Request

The Agency requests a total of $12,826,900 supported by 178.9 total workyears for this program of which $11,727,400 will be for the Salaries and Expenses appropriation and $1,099,500 will be for the Abatement Control and Compliance appropriation. This represents an increase in the Salaries and Expenses appropriation of $1,175,500 and 6.0 total workyears, a decrease of .2

projects under analysis. The Systems Development Center was established to assist in the development and enhancement of our national program data systems.

HUMAN RESOURCES MANAGEMENT

1991 Program Request

The Agency requests a total of $9,375,500 supported by 180.4 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. Total workyears will include 177.4 from the Salaries and Expenses appropriation and 3.0 from the Reregistration and Expedited Processing Revolving Fund. This represents an increase of $361,500 in the Salaries and Expenses appropriation and an increase of 1.7 total workyears from the Reregistration and Expedited Processing Revolving Fund. This supports expansion of the Technology Transfer Program to states, local and tribal governments, managerial and executive development, and increased delegated examining authority for key employee groups and high priority occupations. This program will continue recruitment, position management, classification, performance management, pay administration, personnel and payroll processing, labor management and employee relations, and technical assistance and advisory services. It is also institutionalizing the Human Resources initiatives begun during the last several years. These include: extension of the EPA Institute, creation and delivery of programs dealing with important workplace issues (e.g. flexiplace and leave bank), expansion of workforce planning and organizational programs, streamlining and simplifying employment and position classification programs, and developing and implementing executive and management development programs.

1990 Program

In 1990, the Agency is allocating a total of $9,014,000 supported by 178.7 total workyears for the program, all of which is from the Salaries and Expenses appropriation. Total workyears include 177.4 from the Salaries and Expenses appropriation and 1.3 from the Reregistration and Expedited Processing Revolving Fund. These resources will provide professional and administrative recruitment services, selection and placement of new employees, centralized examination and referral services, position management, classification and job analysis , advice to management on labor management and employee relations, employee and management development services, and personnel and payroll processing. Policy guidance and national support will be provided to the Agency. These resources will allow for maintenance of personnel data and information systems including updating the workforce snapshots book. Among the Human Resources initiatives to be introduced in 1990 are the broader use of the EPA Institute to transfer technology to state, local and tribal governments and the implementation of an automated catalogue of all EPA taught courses nationwide. The Agency will also establish its own Intern Program, expand management courses and enhance supplemental managerial development programs. In addition, EPA will field a leave bank program and pilot a flexiplace program.

1989 Accomplishments

In 1989, the Agency obligated a total of $8,558,900 supported by 169.7 total workyears for the program, all of which was from the Salaries and Expenses

appropriation. The Agency implemented and expanded key Human Resources initiatives. Among those initiatives was the further expansion of the EPA Institute to Regional and field locations and the development of managerial courses including a Core Course for Executives. The Agency also simplified its workforce planning methodology including the introduction of a workforce snapshots book for supervisors and managers, accepted some delegated authority and implemented employment flexibility to streamline the employment process. The Agency implemented a comprehensive program to provide continuous assistance on the FERS and Civil Service Retirement System Programs, and further consolidated direct contact personnel services for Headquarters employees in our Human Resources Service Center. Resources supported improvement and utilization of personnel data information systems and provided continuing support to meet the Agency's special recruitment needs.

Regional

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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REGIONAL MANAGEMENT

PROGRAM		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
Resource Management - Regions						
Salaries & Expenses		$1,837.0	$1,801.3	$1,761.1	$2,066.3	$305.2
	TOTAL	$1,837.0	$1,801.3	$1,761.1	$2,066.3	$305.2
Financial Management - Regions						
Salaries & Expenses		$3,179.0	$3,091.5	$3,458.5	$3,510.1	$51.6
	TOTAL	$3,179.0	$3,091.5	$3,458.5	$3,510.1	$51.6
Human Resources Mgt - Regions						
Salaries & Expenses		$3,836.2	$3,771.3	$3,781.4	$4,487.6	$706.2
	TOTAL	$3,836.2	$3,771.3	$3,781.4	$4,487.6	$706.2
Administrative Management - Regions						
Salaries & Expenses		$6,794.3	$7,104.6	$7,724.8	$9,050.0	$1,325.2
	TOTAL	$6,794.3	$7,104.6	$7,724.8	$9,050.0	$1,325.2
Regional Management						
Salaries & Expenses		$12,213.6	$11,181.2	$11,945.7	$13,452.4	$1,506.7
	TOTAL	$12,213.6	$11,181.2	$11,945.7	$13,452.4	$1,506.7
Regional Counsel						
Salaries & Expenses		$4,007.1	$4,194.0	$3,689.5	$5,031.3	$1,341.8
	TOTAL	$4,007.1	$4,194.0	$3,689.5	$5,031.3	$1,341.8
Planning, Evaluation & Analysis - Regions						
Salaries & Expenses		$3,817.6	$4,432.6	$4,341.5	$5,227.3	$885.8
	TOTAL	$3,817.6	$4,432.6	$4,341.5	$5,227.3	$885.8
TOTAL:						
Salaries & Expenses		$35,684.8	$35,576.5	$36,702.5	$42,825.0	$6,122.5
Regional Management	TOTAL	$35,684.8	$35,576.5	$36,702.5	$42,825.0	$6,122.5

REGIONAL MANAGEMENT

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PERMANENT WORKYEARS					
Resource Management - Regions	36.5	40.8	40.2	40.8	.6
Financial Management - Regions	85.7	89.5	85.9	89.5	3.6
Human Resources Mgt - Regions	91.7	93.0	85.7	103.0	17.3
Administrative Management - Regions	157.4	188.8	178.9	209.8	30.9
Regional Management	185.9	187.0	180.2	187.0	6.8
Regional Counsel	74.0	83.0	78.1	93.0	14.9
Planning, Evaluation & Analysis - Regions	74.2	97.9	87.9	101.5	13.6
TOTAL PERMANENT WORKYEARS	705.4	780.0	736.9	824.6	87.7
TOTAL WORKYEARS					
Resource Management - Regions	39.9	40.8	40.8	40.8	0.0
Financial Management - Regions	90.2	89.5	89.5	89.5	0.0
Human Resources Mgt - Regions	100.0	93.0	93.0	103.0	10.0
Administrative Management - Regions	178.7	188.8	189.0	209.8	20.8
Regional Management	205.7	187.0	192.3	187.0	-5.3
Regional Counsel	81.0	83.0	82.9	93.0	10.1
Planning, Evaluation & Analysis - Regions	81.0	97.9	90.8	101.5	10.7
TOTAL WORKYEARS	776.5	780.0	778.3	824.6	46.3

MANAGEMENT AND SUPPORT

Regional Management

Budget Request

The Agency requests a total of $42,825,000 supported by 824.6 total workyears for 1991, an increase of $6,122,500 and 46.3 workyears from 1990. All of the request is for the Salaries and Expenses appropriation.

RESOURCE MANAGEMENT - REGIONS

1991 Program Request

The Agency requests a total of $2,066,300 supported by 40.8 total workyears, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $305,200 and no change in total workyears from 1990. The increase in Salaries and Expenses will provide for anticipated salary and expense needs in FY 1991 and more fully address shortfalls in this account which have existed the past few years. This level of funding supports Regional resource management and control activities, including budget and operating plan development and workload analysis. In addition, these resources will allow the Regional offices to continue implementing the Federal Managers' Financial Integrity Act and further strengthen funds control.

1990 Program

In 1990, the Agency is allocating a total of $1,761,100 supported by 40.8 total workyears for this program, all of which is from the Salaries and Expenses appropriation. These resources are being used to conduct budgeting and resource analysis functions in the ten Regional offices.

1989 Accomplishments

In 1989, the Agency obligated a total of $1,837,000 supported by 39.9 total workyears for this program, all of which was from the Salaries and Expenses appropriation. These resources allowed Regional Administrators to effectively and efficiently manage their resources and operating plan processes.

FINANCIAL MANAGEMENT - REGIONS

1991 Program Request

The Agency requests a total of $3,510,100 supported by 89.5 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $51,600 and no change in workyears from 1990. The increase in Salaries and Expenses will provide for anticipated salary and expense needs for FY 1991 and more fully address shortfalls in this account which have existed the past few years. It also provides the capability to continue conducting internal control reviews as required by the Federal Managers' Financial Integrity Act of 1982 as well as Cash Management Reviews mandated by

the Deficit Reduction Act of 1984. The acquisition of micro-computers will provide the staff with the necessary tools to develop automated improvements. This level of funding will allow the financial management offices to provide basic financial services and maintain on-going financial management functions. The financial management offices will continue to provide accounting, payment processing, billings and collections for grants, travel, payroll, contracts, purchase orders, and all other financial transactions as well as payroll support and general ledger activities.

1990 Program

In 1990, the Agency is allocating a total of $3,458,500 supported by 89.5 total workyears for this program, all of which is from the Salaries and Expenses appropriation. These resources are being used to provide the Regions with accounting, payment processing, payroll support, financial reporting services, and comprehensive financial management.

1989 Accomplishments

In 1989, the Agency obligated a total of $3,179,000 supported by 90.2 total workyears for this program, all of which was from the Salaries and Expenses appropriation. With these resources, the Financial Management Offices provided accounting, payment processing, payroll support, financial reporting services, and comprehensive financial management.

HUMAN RESOURCES MANAGEMENT - REGIONS

1991 Program Request

The Agency requests a total of $4,487,600 supported by 103.0 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $706,200 and 10.0 total workyears from 1990. The increase in Salaries and Expenses will provide for anticipated salary and expense needs for FY 1991 and more fully address shortfalls in this account which have existed the past few years. The increase in workyears will support the Clean Air Act by providing for basic personnel operations and enhancing human resources programs in the Regions. The resources will allow Regional personnel offices to meet basic regulatory requirements and maintain current service levels. These services include processing recruitment and classification actions, entering data and updates to the Agency's payroll system, providing advisory services and reorganization reviews, administering the grievance system, negotiating with unions, and managing the Performance Management and Recognition System.

1990 Program

In 1990, the Agency is allocating a total of $3,781,400 supported by 93.0 total workyears for this program, all of which is from the Salaries and Expenses appropriation. These resources are being used to formalize local human resource management programs, provide for recruitment, staffing, and classification actions, conduct position management and pay administration, process personnel and payroll transactions, administer grievance system and disciplinary action procedures, provide employment development and training, consult and negotiate

with local unions, conduct special studies, and advise Regional managers on the above functions.

1989 Accomplishments

In 1989, the Agency obligated a total of $3,836,200 supported by 100.0 total workyears for this program, all of which was from the Salaries and Expenses appropriation. With these resources, the Regional personnel offices provided on-going personnel services to support the accomplishment of the Regions' program operations and goals, provided better training programs for Regional employees, and initiated human resources management programs.

ADMINISTRATIVE MANAGEMENT - REGIONS

1991 Program Request

The Agency requests a total of $9,050,000 supported by 209.8 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $1,325,200 and 20.8 total workyears from 1990. The increase in Salaries and Expenses will provide for anticipated salary and expense needs in FY 1991 and more fully address shortfalls in this account which have existed the past few years. Increased workyears will provide for enhanced health and safety and environmental compliance activities and expand data integration efforts to assist the Agency in more extensive cross-media analysis for better risk-based decisions. Resources will allow the Regions to provide administrative management services that include maintaining administrative information systems and minicomputer operations, ensuring ADP operations support for Regional programs, managing word processing equipment and ADP systems acquisition, and coordinating Regional records management. Development of state data management plans to ensure efficient and reliable methods of State/EPA data sharing will receive priority attention. In addition, this program will continue to direct contracting and purchasing activities, ensure the safety and security of Regional personnel, manage property and supplies, provide general office services, and provide program management for all support services.

1990 Program

In 1990, the Agency is allocating a total of $7,724,800 supported by 189.0 total workyears for this program, all of which is from the Salaries and Expenses appropriation. These resources are being used to provide the Regions with administrative management activities in the areas of information management, small purchases and procurement, health and safety and environmental compliance, and facilities support. This program will continue to improve methods for EPA and states to share environmental data.

1989 Accomplishments

In 1989, the Agency obligated a total of $6,794,300 supported by 178.7 total workyears for this program, all of which was from the Salaries and Expenses appropriation. With these resources, the Regions provided administrative

management services and implemented information management plans to increase use of personal computers and integrate electronic telecommunications lines to achieve cost saving and productivity gains.

REGIONAL MANAGEMENT

1991 Program Request

The Agency requests a total of $13,452,400 supported by 187.0 total workyears for this program, all of which is for the Salaries and Expenses appropriation. This represents an increase of $1,506,700 and a decrease of 5.3 workyears from 1990. The increase in Salaries and Expenses reflects increased personnel and support costs. The decrease in workyears reflects a 1990 FTE increase to process the backlog of FOI requests. The budget request will enable the Regional offices to continue to shape and articulate policy for state and local governments; respond to inquiries from Congress, the news media and the public; establish regular communications with public interest, environmental and business groups; maintain an effective Equal Employment Opportunity program, and process Freedom of Information requests.

1990 Program

In 1990, the Agency is allocating a total of $11,945,700 and 192.3 total workyears for this program, all of which is from the Salaries and Expenses appropriation. In 1990 we will emphasize coordination and dissemination of the increasing number of information requests including Freedom of Information requests, which are increasing by approximately 20 percent per year. The program will continue issuing critical news releases, maintaining a Regional Equal Employment program, responding to Congressional inquiries, and coordinating EPA involvement in major state environmental issues.

1989 Accomplishments

In 1989, the Agency obligated $12,213,600 and 205.7 total workyears for this program, all of which was from the Salaries and Expenses appropriation. This program provided support for the Regional Administrators and their immediate staffs, as well as for the basic staff functions of public affairs, Congressional and intergovernmental activities, and the equal employment opportunity function.

REGIONAL COUNSEL

1991 Program Request

The Agency requests a total of $5,031,300 supported by 93.0 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $1,341,800 and an increase of 10.1 total workyears from 1990. The increase will provide for additional staff to manage, conduct, and coordinate legal counseling and Agency litigation; to provide increased legal support to FOI requests; to provide for hearing officers for certain types of administrative hearings, and for increased personnel and support costs.

The Offices of Regional Counsel (ORC) will continue to handle defensive litigation involving principally Regional issues. They will provide advice and counsel to Regional programs; review Regional rulemaking actions; assist states by reviewing State program delegations and advising State agencies on obtaining adequate legal authorities; and support Agency contract and assistance programs through resolution of grant appeals, bid protests, and debarment and suspension actions. The additional attorney staff requested for 1991 will be used to bolster the ORC capacity to manage, conduct, and coordinate Agency Regional litigation and other actions to ensure that Agency receives timely, consistent, and comprehensive legal advice for all Regional programs and activities.

1990 Program

In 1990, the Agency is allocating a total of $3,689,500 supported by 82.9 total workyears for this program, all of which is from the Salaries and Expenses appropriation. The ORCs handle defensive litigation involving principally Regional issues. They provide advice and counsel to Regional programs; review Regional rulemaking actions; and assist States by reviewing State program delegations and advising State agencies on obtaining adequate legal authorities. Additionally, the ORCs continue to support Agency assistance and procurement programs through resolution of grant appeals, bid protest, and debarment and suspension actions.

1989 Accomplishments

In 1989, the Agency obligated a total of $4,007,100 supported by 81.0 total workyears for this program, all of which was from the Salaries and Expenses appropriation. In 1989, the ORCs supported Agency priorities by providing legal advice and support to Regional managers and defending the Agency in litigation. They also advised on actions such as grants, contracts, and personnel actions. Additionally, the ORCs activities including advising State agencies on the legal requirements for assuming environmental protection programs, assisting in drafting appropriate regulatory language, and helping to negotiate and document the terms of delegation agreements.

PLANNING, EVALUATION, AND ANALYSIS - REGIONS

1991 Program Request

The Agency requests a total of $5,227,300 supported by 101.5 total workyears for this program, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $885,800 and an increase of 10.7 total workyears from 1990. The increase in Salaries and Expenses results from expanded efforts in pollution prevention and strategic planning and increased personnel and support costs as well as the one-time reduction in 1990 associated with sequestration and Section 517.

The ten Regions will carry out essential Regional planning, evaluation and analysis activities including strategic planning focussing on comparative risk analyses and development of Regional strategic options; accountability; program evaluation; management and regulatory analysis; and risk assessment, management and communication which will focus on developing and implementing comprehensive Regional risk reduction strategies to establish the necessary institutional

framework for addressing risk in the field. In addition, these resources will provide all Regions with the staff needed to perform activities related to cross-media pollution prevention. Products will include implementation of Regional pollution prevention plans; integration of pollution prevention and source reduction approaches in site-specific decision making; sponsoring training and education events for state and local governments, industry and citizen groups; overseeing pollution prevention state grant activities; integrating pollution prevention into Regional risk management strategies; and supporting multi-state, Regional councils, established specifically to deal with pollution prevention and source reduction initiatives.

1990 Program

In 1990, the Agency is allocating a total of $4,341,500 supported by 90.8 total workyears for this program, all of which is from the Salaries and Expenses appropriation.

These resources are providing the ten Regional Administrators with the staff needed to perform essential planning, evaluation, and analysis activities. In addition, each Region continues to develop an overall strategy for improving the use of risk analysis in its decision making by continuing to work with the Office of Policy, Planning and Evaluation (OPPE) in building priority-setting and planning processes and in improving the ability to set priorities based on risk reduction; increasing the scientific and technical risk capability in each Region; initiating programs to facilitate information exchange among state environmental agencies on new technical and management applications; developing new methods to explain environmental risks to the public; and identifying specific training needs and sponsoring classes for employees in risk-related analytical techniques. Three Regions are working with OPPE in developing Regional risk plans as part of the four-year strategic planning process. Additionally, six Regions are establishing Regional pollution prevention demonstration programs. These cross-media programs support work at the state level by providing technical assistance, training opportunities and support to Regional, multi-state advisory councils. Several Regions are sponsoring projects which are targeting pollution prevention opportunities for key industrial facilities in sensitive environmental areas, and another of the demonstration Regions is integrating pollution prevention approaches into its enforcement priority-setting efforts. Evaluations of these efforts are underway.

1989 Accomplishments

In 1989, the Agency obligated a total of $3,817,600 supported by 81.0 total workyears for this program, all of which was from the Salaries and Expenses appropriation.

Necessary planning, evaluation and analysis functions were performed. Three Regions participated in OPPE's Regional integrated environmental management projects. All Regions devoted additional resources to beginning the development of comprehensive Regional risk reduction strategies to establish the necessary institutional framework for addressing risk assessment, management, and communication. First steps involved examining the Regions' priority-setting process, developing a more objective means of setting priorities (including use of Geographic Information System technologies) and establishing a process for

increased Regional participation in developing Agency priorities and assessing Regional risk reduction efforts. Six Regions also began to lay the foundation for pollution prevention demonstration programs.

Support Cost

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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SUPPORT COSTS

PROGRAM		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
Professional Training						
Salaries & Expenses		$467.1	$582.6	$574.8	$1,130.0	$555.2
	TOTAL	$467.1	$582.6	$574.8	$1,130.0	$555.2
Nationwide Support Services						
Salaries & Expenses		$73,700.8	$81,969.5	$79,820.2	$89,469.8	$9,649.6
Office of Inspector General					$1,702.0	$1,702.0
	TOTAL	$73,700.8	$81,969.5	$79,820.2	$91,171.8	$11,351.6
Headquarters Support Services						
Salaries & Expenses		$37,657.7	$47,435.8	$46,726.6	$56,576.2	$9,849.6
Office of Inspector General					$610.0	$610.0
	TOTAL	$37,657.7	$47,435.8	$46,726.6	$57,186.2	$10,459.6
Regional Support Services						
Salaries & Expenses		$34,096.7	$37,980.5	$31,800.5	$42,037.6	$10,237.1
	TOTAL	$34,096.7	$37,980.5	$31,800.5	$42,037.6	$10,237.1
Automated Data Processing Support Costs						
Salaries & Expenses		$35,832.2	$43,053.0	$42,236.7	$47,749.6	$5,512.9
Office of Inspector General					$130.0	$130.0
	TOTAL	$35,832.2	$43,053.0	$42,236.7	$47,879.6	$5,642.9
Lab Support-Research & Development						
Salaries & Expenses		$6,932.3	$9,486.7	$8,120.0	$8,444.2	$324.2
	TOTAL	$6,932.3	$9,486.7	$8,120.0	$8,444.2	$324.2
Lab Support - Air And Radiation						
Salaries & Expenses		$1,846.5	$1,923.0	$1,858.1	$1,953.3	$95.2
	TOTAL	$1,846.5	$1,923.0	$1,858.1	$1,953.3	$95.2
Lab Support - Pesticides & Toxic Substances						
Salaries & Expenses		$366.0	$466.7	$460.4	$474.0	$13.6
	TOTAL	$366.0	$466.7	$460.4	$474.0	$13.6
TOTAL:						
Salaries & Expenses		$190,899.3	$222,897.8	$211,597.3	$247,834.7	$36,237.4
Office of Inspector General					$2,442.0	$2,442.0
Support Costs	TOTAL	$190,899.3	$222,897.8	$211,597.3	$250,276.7	$38,679.4

Support Costs

Budget Request

The Agency requests a total of $250,276,700 for 1991, an increase of $38,679,400 from 1990. All of the request is for the Salaries and Expenses appropriation.

PROFESSIONAL TRAINING

1991 Program Request

The Agency requests a total of $1,130,000 for this program, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $555,200 from 1990. The increase will enhance current training and development programs as well as support human resources management initiatives especially in the areas of expanding technology transfer to state, local and tribal governments. We will also establish a centrally funded management training pool for an Agency-wide executive development program. The Agency will continue to offer training and development to managers and support staff. Scientific and technical courses will be developed. The EPA Institute will add to its current offerings. Career development activities will be enhanced in order to help employees develop and maintain needed skills.

1990 Program

In 1990, the Agency is allocating a total of $574,800 for this program, all of which is from the Salaries and Expenses appropriation. These funds are being used to develop and deliver a widening variety of training opportunities through the EPA Institute and will increase the number of employees trained to conduct these courses. Institute courses Agency-wide will be consolidated into an automated courses catalogue. The Agency will emphasize Regional Institute activities, especially those involving transfer of technology to states and tribal communities. EPA will continue to conduct supervisory and managerial training courses including "Framework for Supervision", "Keys to Managerial Excellence", and "Managing for Results" and will implement "A Core Course for Executives". In addition, we will develop programs to augment these core managerial courses. Career development programs will be supported which increase the cross-agency and cross-media experience of employees and managers, and improve their ability to address complex environmental problems. Current activities of the Senior Executive Service (SES) Candidate Development Program, the Presidential Management Intern Program and the Greater Leadership Opportunities Program will be maintained. The Agency will continue to support the career advisory committees and the Human Resources Council.

1989 Accomplishments

In 1989, the Agency obligated a total of $467,100 for this program, all of which was from the Salaries and Expenses appropriation. These funds were

utilized to provide training in the areas of supervisory management, executive development, clerical skills, and technical and scientific development. EPA Institute operations were expanded to Regions and field locations. The Agency developed a pre-supervisory training program, a "Core Course for Executives" and expanded the Greater Leadership Opportunities Program (GLO), a program targeted at helping women and minorities to advance.

NATIONWIDE SUPPORT SERVICES

1991 Program Request

The Agency requests a total of $91,171,800 for this program. Total dollars will include $89,469,800 for the Salaries and Expenses appropriation and $1,702,000 for the Inspector General appropriation. This represents an increase of $9,649,600 in the Salaries and Expenses appropriation and $1,702,000 in the Inspector General appropriation from 1990. The increase will cover additional space rental and telecommunications needs as a result of Agency workyear increases, FTS rate increases and cost escalations to service contracts. These funds will pay for Agencywide support costs including space rental, postage, FTS and telecommunications costs, national security, Code of Federal regulations typesetting, unemployment compensation, workmen's compensation, health and safety and environmental compliance audits and personnel support for Public Health Service commissioned officers.

1990 Program

In 1990, the Agency is allocating a total of $79,820,200 for this program, all of which is from the Salaries and Expenses appropriation. These resources are being used by the Agency to provide efficient nationwide services to the Agency workforce. The Agency is working with GSA to procure additional space in Washington to help alleviate overcrowded conditions at the Waterside Mall.

1989 Accomplishments

In 1989, the Agency obligated a total of $73,700,800 for this program, all of which was from the Salaries and Expenses appropriation. These resources allowed the Agency to pursue several nationwide support efforts in the areas of space planning, telecommunications, information security, and personal property management.

HEADQUARTERS SUPPORT SERVICES

1991 Program Request

The Agency requests a total of $57,186,200 for this program. Total dollars include $56,576,200 for the Salaries and Expenses appropriation and $610,000 for the Inspector General appropriation. This represents an increase of $9,849,600 in the Salaries and Expenses appropriation and $610,000 in the Inspector General appropriation. The increase will provide for cost escalations to service contracts, cover anticipated utility rate increases and provide support for Agency workyear increases. It also includes a major initiative to support data management activities which will provide for data integration and

the sharing of information with state and local governments. The data integration efforts will support the Agency emphasis on compliance, enforcement, and pollution prevention strategies. These resources will provide space planning and coordination services for the new Headquarters facility. These resources will also provide ongoing Headquarters Support services including motor pool, printing and copying, telephones, utilities, facilities operations and maintenance (specifically the needs associated with the Waterside Mall Complex), and ADP technical support to EPA operations in Washington, Research Triangle Park (RTP), North Carolina, and Cincinnati, Ohio.

1990 Program

In 1990, the Agency is allocating a total of $46,726,600 for this program, all of which is from the Salaries and Expenses appropriation. These resources are being used to provide on-going office, building, and information management services to EPA operations in Washington, RTP, and Cincinnati. With this funding level the Agency will provide critical on-going services necessary to operate and manage EPA facilities, office supply/support services, and management information systems. Additionally, the Agency will continue to carry out its operating plans for delegation of authority for lease enforcement/building operations at headquarters facilities, and will continue to refine procedures for property management/inventory control. We will continue to plan for the new Headquarters facility and focus on refinement of design characteristics. In addition we are expanding our facility improvement efforts at the Waterside Mall Complex.

1989 Accomplishments

In 1989, the Agency obligated a total of $37,657,700 for this program, all of which was from the Salaries and Expenses appropriation. These resources provided basic Headquarters Support services to EPA operations in Washington, RTP, and Cincinnati. In addition, detailed technical requirements, evaluation criteria, and site analysis information was performed in preparation for the new Headquarters facility. ADP support was provided for the first phase of the Integrated Financial Management System. This system was implemented Agency-wide providing integrated financial services and internal funds control. The program systems modernization efforts were begun to enhance and develop national data systems.

REGIONAL SUPPORT SERVICES

1991 Program Request

The Agency requests a total of $42,037,600 for this program, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $10,237,100 from 1990. The increase will allow for contract and rate increases in basic operating costs, provide for health and safety and environmental compliance contract support, and provide for the acquisition of ADP equipment to meet information management needs. Increased resources will more fully address shortfalls in this account which have existed in the past, and provide support needs for additional Agency workyears. This level of resources will provide the ten Regional Offices with basic support services

including printing and copying, minicomputer operations, utilities, mail, telephone, library operations, general training, office and laboratory facility maintenance, and technical support. In addition, funding is provided to pay for the relocation of the Chicago, San Francisco, and Boston offices.

1990 Program

In 1990, the Agency is allocating a total of $31,800,500 for this program all of which is from the Salaries and Expenses appropriation. These resources are being used to provide basic office, building, and information management services to the Regions. In addition, funding is provided to pay for the relocation of the San Francisco and Boston offices.

1989 Accomplishments

In 1989, the Agency obligated a total of $34,096,700 for this program, all of which was from the Salaries and Expenses appropriation. These funds provided ongoing support services in the Regions including improved property management and better safety for EPA employees. Also, the Regions continued efforts to increase Regional productivity.

AUTOMATED DATA PROCESSING SUPPORT COSTS

1991 Program Request

The Agency requests a total of $47,879,600 for this program, $47,749,600 of which will be for the Salaries and Expenses appropriation and $130,000 from the Inspector General appropriation. This represents an increase of $5,512,900 in the Salaries and Expenses appropriation and $130,000 in the Inspector General appropriation. This increase will enable the Agency to allow for increased timeshare capacity to meet additional program and administrative needs. These resources will provide the mainframe computing capacity, telecommunications network, workstation support and operations to support the access and use of environmental and management data.

1990 Program

The Agency is allocating a total of $42,236,700, all of which is from the Salaries and Expenses appropriation. These funds are being used to maintain an ever-increasing demand on computing services in support of all Agency programs, exclusive of Superfund. The Agency's mainframe computing resources are expanding to meet the increased use by the Agency and states in environmental data collection, use and sharing. The integration of our administrative systems have also increased the demand for mainframe computing capacity. The Agency is also beginning to implement a more open telecommunications architecture centered around current communications standards.

1989 Accomplishments

In 1989, The Agency obligated a total of $35,832,200, all of which was from the Salaries and Expenses appropriation. The Agency used these funds to maintain and operate its mainframe computing systems, continued the replacement of obsolete minicomputers in the Agency's Regional Offices with modern processors that are compatible with the Agency's mainframe and telecommunications architecture, continued the implementation of telecommunications connections to state/local environmental agencies to facilitate data sharing, implemented intra-building telecommunications backbones to support local area networking, and began investments in visualization equipment in support of supercomputer modeling research. The Agency continued to invest in increased computing capacity to support programmatic and administrative computer applications. Investments were also made in the wide area network to implement increased capacity and to respond to government-wide standards.

LAB SUPPORT RESEARCH AND DEVELOPMENT

1991 Program Request

The Agency requests a total of $8,444,200, all of which will be for the Salaries and Expenses appropriation. This represents an increase of $324,200 from 1990 to prevent major health, safety or environmental compliance problems that would result from inadequate maintenance of facilities. Many of these laboratories have deteriorated and constantly require attention.

ORD's seven remote laboratories are located in:

- Athens, Georgia
- Ada, Oklahoma
- Corvallis, Oregon
- Duluth, Minnesota
- Narragansett, Rhode Island
- Gulf Breeze, Florida and
- Las Vegas, Nevada

Essential services required to operate and maintain ORD,s seven remote laboratories include, but are not limited to, facilities operation and maintenance; janitorial and guard services; local telephone services; utilities; and equipment operations, maintenance and rental costs.

1990 Program

In 1990, the Agency is allocating a total of $8,120,000, all of which is from the Salaries and Expenses appropriation. This program provides funds for the operation and maintenance of ORD's seven remote laboratories.

1989 Accomplishments

The Agency obligated $6,932,300, all of which was from the Salaries and Expenses appropriation. These funds provided for the operation and maintenance of remote laboratories.

LAB SUPPORT - AIR AND RADIATION

1991 Program Request

The Agency requests a total of $1,953,300 for this program, all of which is for the Salaries and Expenses appropriation. This represents an increase of $95,200 from 1990. This program supports the Motor Vehicle Emissions Laboratory (MVEL) in Ann Arbor, Michigan; the Eastern Environmental Radiation Facility (EERF) in Montgomery, Alabama; and the Las Vegas radiation facility (LVF) in Nevada. The funds provide basic operation and maintenance support at these locations. The support provided includes security, janitorial, and maintenance services; utilities; General Services Administration vehicles; supplies and materials; and communications.

1990 Program

In 1990 the Agency is allocating $1,858,100 to support the three laboratories, all from the Salaries and Expenses appropriation. The 1990 program provides for the same types of activities described for 1991: basic laboratory operations, maintenance, and supplies. These activities are required on a continuing basis for effective and safe laboratory operation.

1989 Accomplishments

In 1989 the Agency obligated a total of $1,846,500 for this program, all of which was from the Salaries and Expenses appropriation. These funds provided the basic facilities operations and maintenance costs necessary to operate the three laboratories.

LAB SUPPORT - PESTICIDES AND TOXIC SUBSTANCES

1991 Program Request

The Agency requests a total of $474,000 for this program, all of which will be for the Salaries and Expenses appropriation. This is an increase of $13,600 over the 1990 funding level. Resources will be used for basic facilities and operation and maintenance costs for the laboratories in Beltsville, Maryland and Bay St. Louis, Mississippi. These costs include utilities, security, communications, warehousing, custodial services, and building maintenance. These resources will also provide for the purchase of new laboratory equipment to replace equipment which is obsolete or no longer cost-effective to repair, and cover increasing maintenance costs for existing equipment. The resources will also provide for the purchase of equipment for building analytical capacity for biotechnology and other unique products which cannot be validated with traditional laboratory instruments.

1990 Program

In 1990, the Agency is allocating a total of $460,400 for this program, all of which is from the Salaries and Expenses appropriation. The 1990 program supports the facilities, operations, and maintenance costs for the laboratories in Beltsville, Maryland and Bay St. Louis, Mississippi. These costs include

utilities, security, communications, warehousing, custodian services, building maintenance, purchase of new laboratory equipment to replace equipment which is obsolete or no longer cost-effective to repair, equipment maintenance, building biotechnology capacity, and analyzing unique products which cannot be validated with traditional analytical laboratory instruments.

1989 Accomplishments

In 1989, the Agency obligated a total of $366,000 for this program, all of which was from the Salaries and Expenses appropriation. The funds were used to provide general support and maintenance of the laboratories.

12. Building and Facilities

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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BUILDINGS AND FACILITIES

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
APPROPRIATION	$6,592.7	$14,768.0	$14,652.0	$13,000.0	-$1,652.0
OUTLAYS	$15,118.0	$19,543.0	$19,436.0	$12,942.0	-$6,494.0
AUTHORIZATION	Authorization is by virtue of the Appropriation Act.				

BUILDINGS AND FACILITIES

OVERVIEW AND STRATEGY

The Building and Facilities appropriation funds the design, construction, and improvement of all types of facilities occupied by EPA. The agency currently has ten Regional offices with associated Regional laboratories, two large research and development laboratories, a number of field stations with laboratory facilities, and a large headquarters complex.

The Building and Facilities mandate is to provide a healthful and efficient work environment through repair, renovation upgrades, or replacement of our facilities. We are currently directing major efforts toward finding suitable housing for EPA headquarters and are simultaneously continuing a repair program that protects the investment in EPA's real property holdings and permits us to more adequately and efficiently address Agency programs. When necessary, we provide specially designed laboratories and testing facilities to meet particular environmental program needs. We place particular emphasis on environmental compliance efforts in EPA facilities where modifications are needed to accommodate storage of hazardous materials, removal of asbestos and PCBs, upgrading fire and life safety systems (such as installation of sprinkler and detection systems and the removal of Halon systems), and renovating HVAC systems to meet ventilation standards. A constant theme in all of our efforts is to provide environmental leadership in protecting our employees so that we might serve as a role model for both the public and private sectors of society.

BUILDINGS AND FACILITIES

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
New Facilities					
Buildings & Facilities	$1,561.1	$4,430.4	$4,395.6	$500.0	-$3,895.6
TOTAL	$1,561.1	$4,430.4	$4,395.6	$500.0	-$3,895.6
Repairs & Improvements					
Buildings & Facilities	$5,031.6	$10,337.6	$10,256.4	$12,500.0	$2,243.6
TOTAL	$5,031.6	$10,337.6	$10,256.4	$12,500.0	$2,243.6
TOTAL:					
Buildings & Facilities	$6,592.7	$14,768.0	$14,652.0	$13,000.0	-$1,652.0

BUILDINGS AND FACILITIES

Budget Request

The Agency requests $13,000,000 for the Buildings and Facilities appropriation, a decrease of $1,652,000 from 1990. This decrease is the result of a significant decrease in New Facilities funds described below.

NEW FACILITIES

1991 Program Request

The Agency requests a total of $500,000 for this program, all of which will be for the Building and Facilities appropriation. This represents a decrease of $3,895,600 from 1990. The 1990 appropriation had been increased by a Congressional add-on of $3 million for the Las Vegas laboratory and a second add-on of $1 million for the Ada, Oklahoma laboratory. The 1990 funds were also affected by across-the-board cuts of $105,000. The 1991 request will provide funds to design and construct daycare facilities.

1990 Program

In 1990, the Agency is allocating $4,395,600 for this program, all of which is from the Buildings and Facilities appropriation. These funds are being used to construct a new water quality monitoring field station and support construction activities in Newport, Oregon; design and renovate a laboratory to test and evaluate innovative hazardous waste treatment technologies in Edison, New Jersey; complete the design for a Clinical Inhalation Research Laboratory at Chapel Hill, North Carolina; design and complete construction of a Day Care Center in Cincinnati, Ohio; and finish construction of a radiation laboratory in Montgomery, Alabama; and complete design and begin construction of the new biotechnology lab in Gulf Breeze, Florida.

1989 Accomplishments

In 1989, the Agency obligated a total of $1,561,100 for this program, all of which was carryover from the Buildings and Facilities appropriation. These funds were used to start construction on a new water quality monitoring field station in Newport, Oregon, and to design a lab for clinical inhalation research in Chapel Hill, North Carolina. In addition, we initiated the design on the new biotechnology lab in Gulf Breeze, Florida and continued the design on the Superfund Lab in Edison, New Jersey. Construction continued on the new radiation lab in Montgomery, Alabama.

REPAIRS AND IMPROVEMENTS

1991 Program Request

The Agency requests a total of $12,500,000 for this program, all of which will be for the Buildings and Facilities appropriation. This represents an increase of $2,243,600 from 1990. The increase will be used for health and

safety and environmental compliance projects and will fund build-out costs associated with Regional office moves. These funds will provide planning, engineering design, and construction related to the repair and improvement of buildings occupied by EPA. More specifically, these funds will be used to improve working conditions at the Waterside Mall Complex, address critical repairs related to employee health and safety (fire protection installation); environmental compliance efforts in EPA facilities (asbestos removal and hazardous materials storage); critical regional build-out costs of space associated with the moves of Chicago, San Francisco, and Boston; the expansion of the New York office; and required alterations and repairs (electrical distribution, air conditioning, emergency power for animal facilities).

1990 Program

In 1990, the Agency is allocating a total of $10,256,400 for this program all of which is from the Buildings and Facilities appropriation. These resources are being used primarily to provide facilities maintenance and repair in an effort to prevent further deterioration of EPA facilities, particularly at Waterside Mall; to initiate environmental compliance activities such as asbestos removal and upgrading of an incinerator in RTP; to complete Underground Storage Tank (UST) activities; and to continue health and safety improvements and modifications to facilities, including fume hoods and critical HVAC upgrades and upgraded space requirements associated with the moves of San Francisco and the Boston Regional offices as well as critical Health and Safety related Headquarters activities.

1989 Accomplishments

In 1989, the Agency obligated a total of $5,031,600, all of which was from the Buildings and Facilities appropriation. These resources were used to complete various health and safety and environmental compliance improvements to protect EPA employees and provide routine and emergency repairs at multiple sites throughout the nation.

13. Construction Grants

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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CONSTRUCTION GRANTS

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
APPROPRIATION	$2,531,237.0	$2,018,225.0	$1,991,720.0	$1,600,000.0	-$391,720.0
OUTLAYS	$2,349,827.0	$2,363,092.0	$2,362,668.0	$2,338,857.0	-$23,811.0

AUTHORIZATION LEVELS The Water Quality Act of 1987 reauthorized this program at a level of $2,400,000,000 for each year 1987 through 1991.

CONSTRUCTION GRANTS

OVERVIEW AND STRATEGY

Program Background

Since 1973 the construction grants program has completed about 7,000 construction projects and provided approximately $52 billion of the more than $77 billion invested in grant-assisted wastewater treatment works. There are currently about 15,600 treatment plants in the nation serving 176 million people.

This program has been authorized since 1972 through Title II of the Clean Water Act. Legislative amendments in 1977, 1981 and 1987 made a number of significant changes to the program which reduced the Federal role in financing project grants and increased state responsibilities for direct grants management. The statute provides a formula for annual allotment of funds to states and contains authorities for various funding set-asides to support delegated state management, water quality management planning, innovative and alternative technologies, and rural communities.

Program Transition

The Water Quality Act of 1987 set the stage for significant program changes. The traditional program of grants to communities for constructing facilities is being replaced by grants to states to capitalize revolving loan funds ushering in expanded state responsibilities and autonomy in an already extensively delegated program. Forty-three SRF programs came on line through 1989 with seven new programs projected in 1990, resulting in 50 operational programs in 1991.

Another key change brought by the 1987 amendments was the creation of several programs based on set-asides from construction grants (Title II) funds. These include national reserves for Indian tribe wastewater treatment grants, marine combined sewer overflow grants, funding for the national estuary program and funding for nonpoint source programs. The set-asides have provided significant financial support to these activities; however, they will end with the final appropriation of Title II funds in 1990.

Program Completion

Although funding for construction grants ends in 1990, a significant workload of active grant projects will require state and Federal management well into the 1990. By 1991, over 4,800 active grant projects, representing over $25 billion in Federal investment, will require ongoing management. Projects not yet closed out in 1991 represent 26 percent of all construction grants ever made and 60 percent of the total Federal investment.

EPA is developing a strategy to deal with the completion of the program as 205(g) program grant funds are phased out. The strategy will be based on the ongoing partnership among EPA offices (including the Inspector General and Regions), the Corps of Engineers and the state agencies, and will identify the necessary level and mix of program resources to handle the completion workload.

CONSTRUCTION GRANTS

Construction Grants and State Revolving Funds

Budget Request

The Agency requests a total of $1,600,000 for the Construction Grants Appropriation, a decrease of $391,720,000 in the total appropriation from 1990. Since 1990 is the final year the Agency is authorized to award grants to localities for constructing sewage treatment plants, the entire 1991 request will be devoted to capitalizing State Revolving Funds (SRF). Thus, funding for SRF's will increase $598 million over that appropriated for 1990. 1991 is the first year of accelerated SRF funding. The goal is that SRFs will be adequately capitalized when the federal contribution ends no later than 1994. With sufficiently funded SRFs, state wastewater treatment plant construction programs will be self sufficient.

CONSTRUCTION GRANTS

1991 Program Request

The Agency's request of $1,600,000,000 for the Construction Grants appropriation will be entirely devoted to the SRF program. This level of funding will enable the Agency to assist in capitalizing the SRF programs and ensure that states can provide financial assistance for construction of the highest priority wastewater treatment facilities needed by communities to comply with Clean Water Act requirements.

The Agency requests that $15,700,000 be earmarked for an international sewage treatment project authorized by Section 510 of the Water Quality Act of 1987. Funds will be available for the construction of treatment facilities to treat Tijuana sewage only if Mexico agrees to finance all operations and maintenance costs attributable to Mexican sewage treated at the international plant as well as the construction of any future additional capacity necessary to treat Tijuana sewage.

Gross obligations for the construction grants program will total approximately $209,000,000 from carryover and deobligated funds; gross obligations for the SRF program will total approximately $1,488,930,000. Net outlays are projected to be $1,397,928,000 for construction grants and $940,930,000 for the SRF program.

Fifty SRF programs will be operating in 1991. Since the final appropriation for construction grants ended in 1990, a total of 89 new construction grants awards will be made from carryover and deobligated construction grants funds, resulting in a total active workload of approximately 4,800 construction grants projects at the end of 1991. Funding for the Indian grants set-aside under Title II will remain available until expended. Making use of provisions under the SRF program, states will have greater flexibility to use funds for nonpoint source, ground-water and estuary programs after they have addressed first use requirements for National Municipal Policy projects. The Section 604(b) set-aside for water quality management activities under Title VI will continue.

1990 Program

In 1990, the Agency is allocating a total of $1,991,720,000 from the Construction Grants appropriation, which is evenly distributed between the construction grants and SRF programs. The 1990 construction grants appropriation includes $46,000,000 stipulated for Section V projects in Boston Harbor, Tijuana and Des Moines.

Gross obligations for the construction grants program will total approximately $765,817,000 and approximately $1,539,416,000 for the SRF program. Net outlays will be approximately $1,836,934,000 for construction grants and $525,734,000 for the SRF program. The 1990 funding level will result in a total of 339 Title II grant awards and a total active workload of approximately 5,500 construction grants projects at the end of 1990. Section 205(g) management assistance grants will continue to be a major source of funding for state management of construction grants activities. The Agency is continuing to work with states to establish plans to complete the construction grants program. Funds under 518(c) will continue to be reserved for grants for the design and construction of wastewater treatment works on Indian reservations.

1989 Accomplishments

In 1989, gross obligations totaled $1,389,237,300 for construction grants and $1,142,000,000 for the SRF program. This funding supported 402 Title II grant awards and resulted in a total active workload of 6,095 grant projects at the end of 1989. Federal outlays totaled $2,186,826,836 for construction grants and $163,000,000 for the SRF program. States obligated $49,700,000 under 205(g) for management of delegated construction grants projects.

The 1989 Construction Grants appropriation included $68,000,000 which Congress stipulated for Boston Harbor ($25,000,000), Des Moines ($20,000,000), Tijuana ($20,000,000), and Oakwood Beach/Red Hook ($3,000,000) projects. Authorizations for these activities are contained in Sections 513, 515, 510 and 512, respectively, of the Water Quality Act of 1987. The Agency worked with the affected jurisdictions to develop plans for the use of these funds consistent with their authorized purposes.

14. Superfund

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY
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SUPERFUND

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
APPROPRIATION					
Office of Inspector General	$6,612.3	$10,156.9	$10,057.9	$13,106.4	$3,048.5
Hazardous Substance Superfund	1537,052.0	1550,588.1	1530,228.1	1740,000.0	209,771.9
TOTAL, Superfund	1543,664.3	1560,745.0	1540,286.0	1753,106.4	212,820.4
PERMANENT WORKYEARS	2,621.5	3,035.0	3,413.5	3,552.0	138.5
TOTAL WORKYEARS	2,799.4	3,535.0	3,535.0	3,552.0	17.0
OUTLAYS	958,195.0	1334,907.0	1330,631.0	1530,771.0	200,080.0
AUTHORIZATION LEVELS	The Superfund Amendments and Reauthorization Act (SARA) of 1986 authorizes a total of $8,500,000,000 for this program for 1987 through 1991.				

SUPERFUND MEDIA OVERVIEW

OVERVIEW AND STRATEGY

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), charges the Agency with the responsibility of providing emergency response for hazardous substances released into the environment and the remediation of inactive hazardous waste disposal sites. The Hazardous Substance Superfund finances the required activities to implement CERCLA primarily through taxes levied on oil and chemical manufacturers, a chemical feed stock tax, a corporate environmental tax, and general revenues.

The Agency will respond to releases of hazardous substances, pollutants, and contaminants by either compelling potentially responsible parties (PRPs) to undertake the response action or by conducting a removal or remedial action. Removal actions are generally short-term responses taken to abate an immediate threat posed by the uncontrolled release of hazardous substances. Remedial actions involve long-term and more permanent remedies taken instead of, or in addition to, removal actions. The program will continue to select sites for remedial action from the National Priorities List (NPL) and to undertake all response actions in accordance with the National Contingency Plan.

While the Agency has the primary responsibility for implementing the program, CERCLA, Executive Order 12580, and SARA provide a clear mandate for the Agency to work closely with a variety of other Federal agencies and the States to carry out the Act. The Agency undertakes five major activities in implementing the Superfund program: Enforcement, Hazardous Substance Response, Interagency Support, Research and Development, and Management and Support. The effective implementation of these activities involves close cooperation among various Agency offices, the states, and other Federal agencies.

Enforcement-First Budget

The Agency's primary strategy is devoted to ensuring that PRPs respond to environmental threats. This strategy involves efforts to identify PRPs in the initial stages of site remediation. Through negotiated administrative settlements for pre-remedial actions and settlements embodied in a Consent Decree for remedial design and construction, the Agency will attempt to maximize PRP response.

Where negotiations are unsuccessful, unilateral administrative orders are issued to allow for treble damage claims if a Fund-financed response is required. In some cases, a CERCLA Section 106 judicial action is undertaken to compel a privately-financed response. In cases where PRPs do not respond in a timely manner to requests for information, enforcement actions are taken. PRP responses resulting from settlements and judgments will be managed, implemented, and monitored for compliance and, where necessary, stipulated penalties will be invoked. Throughout the stage prior to remedy selection, efforts will continue to identify additional PRPs. Non-settlers will be vigorously pursued for cost recovery, with the focus on cases subject to a statute of limitation deadline.

The Agency will enter into agreements with the states to encourage their active involvement in the Superfund program. Through these agreements, the Agency will provide technical assistance as the states compel PRP response under state authorities and oversee privately funded response actions. The enforcement program will also provide oversight of response and technical assistance to other Federal agencies that are addressing uncontrolled hazardous sites at facilities owned or operated by that agency.

Response Actions Address Environmental Threats

The response program addresses two major goals: 1) to stabilize actual or potential threats from releases of hazardous substances; and 2) to ensure that environmental threats posed by uncontrolled hazardous waste sites are addressed quickly and effectively.

The emphasis in 1991 will be to continue the shift to greater involvement of PRPs in the response cleanup process. Growth in the response program will occur as the Agency practices sound management within a finite budget. The importance of several broad management systems and principles is emphasized to provide for the effective and efficient use of resources. These include: Integrated Remedial Action Timeline establishes clear goals for the timing of enforcement decisions and identifies critical points at which actions must be taken; Integrated Priority-Setting Matrix allows for systematic method of allocating and funding resources according to Agency priorities; and Site/Case Management Planning Process ensures that a site strategy is developed, agreed to by managers, and carried out. Funding the most environmentally significant projects first, while maintaining a balance of statutorily required actions and highly visible ongoing projects and completions that build public confidence, will also continue as a program goal.

EPA will continue to place an emphasis on preference for treatment technologies and permanent remedies. Ranking factors will continue to be used to prioritize construction projects currently funded by the Trust Fund. These factors are based on protecting human health as the highest priority, and mitigating actual threats to sensitive ecosystems and endangered species. The priority ranking of a construction project increases as the risk occurs closer in time. In addition, EPA will continue to focus its removal actions on "classical emergencies" or time-critical responses where there is no PRP, state, or local alternative. A lack of action on the Agency's part in these situations could result in substantial harm to the public health and/or the environment. Continued emphasis will be placed on greater state, Indian Tribe, and local participation in all areas of emergency response.

Activities complementary to direct response actions will also be supported. The Agency's Environmental Response Team will continue to provide training and technical support to the Agency, state, and local government personnel. The Agency will continue to operate a system for collecting comprehensive national notification and response data on accidental releases of oil and hazardous substances. Emphasis will continue on the transfer of research and other technical information among decision makers, with emphasis on the transfer of information concerning alternative technologies to land disposal.

To ensure that Superfund response activities do not result in radiation hazards or diminished air and water quality, the Office of Air and Radiation and the Office of Water will continue to provide laboratory analyses, technical assistance, and guidance to these efforts.

Special Expertise

The Agency integrates the efforts of the Departments of Health and Human Services, Justice, Transportation, Commerce, Interior, Labor, and the Federal Emergency Management Agency (FEMA) as part of our requirement for SARA. In this capacity, EPA manages an interagency budget process under Executive Order 12580, signed by the President in January 1987. The activities of other Federal agencies are divided into two basic categories. The first category includes those activities which are episodic in nature and taken in direct support of specific site or spill response actions. The second category of other Federal agency involvement is support for on-going activities which are generally not incident-specific. These activities include developing program policies and guidance, conducting health research, training response personnel, litigating civil and criminal cases, and providing scientific and technical advice to EPA on-scene coordinators.

The Department of Health and Human Services provides the largest supporting element to Superfund activities through the work of the Agency for Toxic Substances and Disease Registry (ATSDR) and the National Institute for Environmental Health Sciences (NIEHS). ATSDR will: 1) provide health assessments at NPL and non-NPL sites; 2) enhance and maintain toxicology data bases for chemicals found at sites; and 3) provide health consultations for emergency responses. NIEHS will continue its basic research grant program of conducting biomedical studies investigating new and unique methodologies to measure levels of exposure and its effects on humans and will continue the grant program for training workers at hazardous waste sites.

Other Federal agencies will provide support for EPA as follows: the Department of Justice will conduct litigation and provide legal advice to achieve responsible party actions or cost recovery; FEMA will support permanent and temporary relocation operations; and the U.S. Coast Guard will respond to spills of hazardous substances in the coastal zone and Great Lakes waters and will maintain the National Response Center. The agencies together enable EPA to carry out an aggressive enforcement effort to respond more effectively and efficiently to emergencies and long-term response actions.

Continuing Research

The Superfund Research program will support the Agency, states, and industry in resolving technical problems which inhibit the effective implementation of removal and remedial actions at Superfund sites. Research will continue on alternative treatment technologies for use in cleanup actions under the Superfund Innovative Technology Evaluation program, evaluating naturally occurring or improved microorganisms (biosystems) for their ability to degrade hazardous substances, and technical support to Regions and states for ground water modeling, sampling, and testing techniques.

Ensuring Integrity of Trust Fund

The Agency will continue to decentralize the Superfund Contracting program by placing the balance of Regional contracting officers in the field. This will provide greater assurances that site-specific contracting needs are effectively addressed. Likewise, the Agency will place Superfund Grants management personnel in the Regions to manage and oversee Superfund Cooperative and Interagency Agreements, and Technical Assistance Grants. The Agency will also continue to increase its efforts to combat fraud, waste, and abuse in Superfund Federal assistance and procurement programs.

Financial management services will continue to ensure the financial integrity of Superfund site-specific cost accounting data and provide timely and accurate reports to Regional and Headquarters managers. Other administrative services will be enhanced in areas such as Superfund property management and program systems development.

Consulting Services

The Superfund program uses consulting services to provide additional technical expertise. Specifically, consultants are called upon to develop designs for cost analysis research, models for remedial projects cost estimation, and project management training courses for Enforcement and Remedial Project Managers as well as On-Scene Coordinators.

SUPERFUND

PROGRAM ACTIVITIES	ACTUAL 1989	CURRENT ESTIMATE 1990	ESTIMATE 1991	INCREASE (+) DECREASE (-) 1991 VS 1990
Incremental Outputs				
ENFORCEMENT ACTIONS				
Response Enforcement				
106 Civil Actions	49	86	96	+10
Remedial Administrative Orders .	31	37	40	+ 3
Other Administrative Orders . .	187	215	137	-78
Criminal Referrals	0	2	4	+2
Criminal Investigations	2	4	6	+2
Cost Recovery				
107 Referrals	83	69	94	+25
Administrative	67*	29	22	- 7
RESPONSE ACTIONS				
Removal Actions				
Fund Financed	236	190	190	0
PRP Response	85	63	63	0
Pre-Remedial Activities				
Preliminary Assessments . . .	2,228	2,020	2,000	-20
Site Inspections	1,732	1,660	1,175	-485
Remedial Investigations Feasibility Studies				
Fund Financed	45	50	10	-40
PRP Response	70	38	20	-18
Remedial Designs				
Fund Financed	37	45	81	+36
PRP Response	67	59	74	+15
Remedial Actions				
Fund Financed	31	10	16	+6
PRP Response	43	36	60	+24

* The 1989 actual includes voluntary cost recoveries and cost recoveries resulting from demand letters.

SUPERFUND

PROGRAM ACTIVITIES	ACTUAL 1989	CURRENT ESTIMATE 1990	ESTIMATE 1991	INCREASE (+) DECREASE (-) 1991 VS 1990
Cumulative Outputs				
ENFORCEMENT ACTIONS				
Response Enforcement				
106 Civil Actions	191	277	373	+96
Remedial Administrative Orders	108	145	185	+40
Other Administrative Orders	663	879	1,016	+137
Criminal Referrals.	0	2	6	+4
Criminal Investigations . .	10	14	20	+6
Cost Recovery				
107 Referrals	319	388	482	+94
Administrative*	270	299	321	+22
Criminal Referrals				
RESPONSE ACTIONS				
Removal Actions				
Fund Financed	1,270	1,460	1,650	+190
PRP Response	396	459	522	+63
Pre-Remedial Activities				
Preliminary Assessments . .	29,714	31,136	33,136	+2,000
Site Inspections	10,863	12,464	13,639	+1,175
Remedial Investigations Feasibility Studies				
Fund Financed	530	580	590	+10
PRP Response	258	296	316	+20
Remedial Designs				
Fund Financed	200	245	326	+81
PRP Response	148	207	281	+74
Remedial Actions				
Fund Financed	135	148	164	+16
PRP Response	126	159	219	+60

* This activity includes administrative plus voluntary cost recoveries and cost recoveries resulting from demand letters.

Research and Development

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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SUPERFUND
Hazardous Substances Research

PROGRAM		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
Scientific Assessment- Superfund						
Hazardous Substance Superfund		$4,154.5	$3,984.5	$4,481.2	$4,467.3	-$13.9
	TOTAL	$4,154.5	$3,984.5	$4,481.2	$4,467.3	-$13.9
Monitoring Systems & Quality Assurance - Superfund						
Hazardous Substance Superfund		$13,060.4	$12,558.2	$13,330.6	$13,568.0	$237.4
	TOTAL	$13,060.4	$12,558.2	$13,330.6	$13,568.0	$237.4
Health Effects - Superfund						
Hazardous Substance Superfund		$3,904.8	$3,606.8	$3,566.7	$3,804.5	$237.8
	TOTAL	$3,904.8	$3,606.8	$3,566.7	$3,804.5	$237.8
Environmental Engineering & Technology - Superfund						
Hazardous Substance Superfund		$31,639.5	$30,355.3	$39,590.7	$31,303.9	-$8,286.8
	TOTAL	$31,639.5	$30,355.3	$39,590.7	$31,303.9	-$8,286.8
Environmental Processes & Effects - Superfund						
Hazardous Substance Superfund		$4,893.8	$4,919.8	$6,422.0	$7,488.5	$1,066.5
	TOTAL	$4,893.8	$4,919.8	$6,422.0	$7,488.5	$1,066.5
Technical Infomation And Liaison Superfund						
Hazardous Substance Superfund		$798.7	$654.1	$1,686.1	$1,015.7	-$670.4
	TOTAL	$798.7	$654.1	$1,686.1	$1,015.7	-$670.4
Exploratory Research - Superfund						
Hazardous Substance Superfund		$14,701.9	$8,107.3	$8,679.5	$9,435.5	$756.0
	TOTAL	$14,701.9	$8,107.3	$8,679.5	$9,435.5	$756.0
TOTAL:						
Hazardous Substance Superfund		$73,153.6	$64,186.0	$77,756.8	$71,083.4	-$6,673.4
Hazardous Substances Research	TOTAL	$73,153.6	$64,186.0	$77,756.8	$71,083.4	-$6,673.4

SUPERFUND
Hazardous Substances Research

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PERMANENT WORKYEARS					
Scientific Assessment-Superfund	13.6	14.1	16.6	16.6	0.0
Monitoring Systems & Quality Assurance - Superfund	25.5	26.3	27.2	27.2	0.0
Health Effects - Superfund	3.3	3.0	3.0	3.0	0.0
Environmental Engineering & Technology - Superfund	45.2	68.9	56.8	56.8	0.0
Environmental Processes & Effects - Superfund	8.2	11.5	20.5	20.5	0.0
Technical Infomation And Liaison Superfund	1.3	7.5	5.0	5.0	0.0
Exploratory Research - Superfund	1.0	1.0	1.0	1.0	0.0
TOTAL PERMANENT WORKYEARS	98.1	132.3	130.1	130.1	0.0
TOTAL WORKYEARS					
Scientific Assessment-Superfund	15.0	14.1	16.6	16.6	0.0
Monitoring Systems & Quality Assurance - Superfund	26.2	26.3	27.2	27.2	0.0
Health Effects - Superfund	3.3	3.0	3.0	3.0	0.0
Environmental Engineering & Technology - Superfund	47.5	68.9	56.8	56.8	0.0
Environmental Processes & Effects - Superfund	8.2	11.5	20.5	20.5	0.0

SUPERFUND
Hazardous Substances Research

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
Technical Infomation And Liaison Superfund	2.1	7.5	5.0	5.0	0.0
Exploratory Research - Superfund	1.0	1.0	1.0	1.0	0.0
TOTAL WORKYEARS	103.3	132.3	130.1	130.1	0.0

SUPERFUND

Hazardous Substance Research

Principle Outputs by Objective

Objective 1: Provide Techniques and Procedures for Site and Situation Assessment

1991:
- o Health and Environmental Effects Documents (Scientific Assessment).
- o Report on New Analytical Methods for Analyses Not Measurable by Standard Techniques (Monitoring).

1990:
- o Health and Environmental Effects Documents (Scientific Assessment).
- o Technical Guidance Document on Emerging Technology for the Treatment of Metal-Bearing Wastes (Engineering).

1989:
- o Prototype Cost Engineering Models for Remedial Response Technologies (Engineering).

Objective 2: Develop Technologies to Manage Uncontrolled Waste Sites

1991:
- o Report on Radio Frequency Heating for Treatment of Soils Contaminated with Wood Preserving Chemicals (Engineering).
- o Construction Claims Advisor for Differing Site Conditions (Engineering).
- o Interim Report on Bioreactor Design for Treating CERCLA Leachates (Engineering).
- o Report on Uses of Isolated Natural Organisms to Enhance Bioremediation of Mixed Hazardous Wastes (Environmental Processes).

1990:
- o Handbook on In-Situ Treatment of Hazardous Waste (Engineering).
- o Report on Enhancing Biodegradation of a Gasoline Spill in Ground Water (Environmental Processes).
- o Report on a Field Demonstration of Using Nitrate to Bioremediate Hazardous Wastes (Environmental Processes).
- o Report on Development of Procedures for Biological Cleanup of Trichloroethylene-contaminated Hazardous Waste Areas (Environmental Processes).

1989:
- o Status Report on Best Demonstrated Available Technologies (BDAT) for Superfund Wastes (Engineering).

Objective 3: Provide Information on Personal Health, Protective Equipment, and Procedures

1991: o Report on the Development of Methodology for Determining the Reliability of Flexible Membrane Liners (Engineering).

1990: o Interim Report on Improvement of Worker Safety via Robotics, Automation, and Task Modification (Engineering).

1989: o Technical Report on the Evaluation of Personal Hazard Detectors for Highly Toxic Chemicals (Engineering).

Objective 4: Support Reportable Quantities Regulatory Efforts

1991: o Reportable Quantity Chapters for Health and Environmental Effects Documents; and Independent Reportable Quantities Documentation for Carcinogenicity and Chronic Health Effects (Scientific Assessment).

1990: o Reportable Quantity Chapters for Health and Environmental Effects Documents; and Independent Reportable Quantities Documentation for Carcinogenicity and Chronic Health Effects (Scientific Assessment).

1989: o Reportable Quantity Chapters for Health and Environmental Effects Documents; and Independent Reportable Quantities Documentation for Carcinogenicity and Chronic Health Effects (Scientific Assessment).

Objective 5: Provide Technical Support to Enforcement, Program, and Regional Offices

1991: o Report on the Use of Canister Based Samples for Air Pathway Monitoring Volitales as Superfund Sites (Monitoring).

o Report on Plants That Can Be Used as Sentinel Species for Phytotoxicity at Superfund Sites (Environmental Processes).

o Report on Use of DNA Adjuncts as a Measure of Exposure of Wildlife at Superfund Sites (Environmental Processes).

1990: o Report on Exposure and Ecological Risk Assessment Methodologies (Environmental Processes).

o User's Manual on Use of Geostatistical Models for Managing Soil and Water Contamination (Environmental Processes).

o Report on Application of Biomarkers for Characterizing Complex Mixtures at Marine Superfund Sites (Environmental Processes).

1989: o Engineering Research Symposia for Selected Regions (Engineering).

o Report on New Bedford Harbor Pilot Dredging Study (Environmental Processes).

- o Report on Performance Evaluation of Pump-and-Treat Remediations (Environmental Processes).

- o Report on Lake Ontario TCDD Modeling Study (Environmental Processes).

Objective 6: Provide Quality Assurance Support for Superfund Program Requirements

1991: o Annual Report on Quality Assurance Support to the Contract Laboratory Program (Monitoring).

1990: o Annual Report on Quality Assurance Support to the Contract Laboratory Program (Monitoring).

1989: o Annual Report on Quality Assurance Support to the Contract Laboratory Program (Monitoring).

Objective 7: Provide Technology Transfer

1991: o Annual Report on Technology Transfer Activities (Technical Information).

1990: o Annual Report on Technology Transfer Activities (Technical Information).

1989: o Annual Report on Technology Transfer Activities (Technical Information).

Objective 8: Conduct Alternative/Innovative Technology Research, Development and Demonstration

1991: o Reports on Evaluations Conducted Under the SITE Program (Engineering).

- o SITE Annual Report to Congress (Engineering).

1990: o SITE Annual Report to Congress (Engineering).

- o Annual Report on Development and Demonstration of Immunoassay Detection System for Rapid Screening at Superfund Sites (Monitoring).

1989: o SITE Annual Report to Congress (Engineering).

- o Report on Ten SITE Program Demonstrations and Applications Analyses (Engineering).

Objective 9: Conduct Hazardous Substances Health Effects/Risk Assessment and Detection Research

1991: o Tiered test scheme for evaluating the neurotoxic potential of Superfund substances (Health).

1990: o Evaluation of Pentachlorophenol Immunoassay (Monitoring).

o Chemical mixtures health research strategy (Health).

1989: o Graphic activity profiles for the third group of hazardous substances (Health).

Objective 10; Manage University Hazardous Substance Research Centers

1991: o Annual Report on the Hazardous Substance Research Centers.

1990: o Annual Report on the Hazardous Substance Research Centers.

1989: o Annual Report on the Hazardous Substance Research Centers.

SUPERFUND

Hazardous Substance Research

Budget Request

The Agency requests a total of $71,083,400 supported by 130.1 total workyears for 1991, a decrease of $6,673,400 and no change in total workyears over 1990. The request will only be for the Hazardous Substance Superfund appropriation. The decrease in funding reflects the one time add in 1990 to implement the 90 day Management Review recommendations.

Program Objectives

The Superfund research and development program provides a core of scientific and technical information to support implementation of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA). The research program concentrates on assessing the health and environmental risks posed by Superfund sites and on evaluating equipment and techniques for discovering, assessing, preventing, removing, and disposing of hazardous substances released into the environment.

Objective 1: Provide Techniques and Procedures for Site and Situation Assessment. This research provides techniques and procedures to allow on-site coordinators and remedial project managers to quickly and effectively assess the degree of hazard posed at specific uncontrolled waste sites.

Objective 2: Develop Technologies to Manage Uncontrolled Waste Sites. This research program develops and evaluates technologies which are not ready for field application and require additional lab development. These technologies are being developed as tools for cleanup under the Superfund program. This development activity must be carried out by the Agency because of the low commercial interest, low potential for profit, or because of the high economic risks associated with the development of the technology.

Objective 4: Support Reportable Quantities Regulatory Efforts. This research supports Superfund regulatory efforts by ranking and assigning Reportable Quantities (RQ) to chemicals based upon either carcinogenicity or chronic health effects information. This information is used by the program office to adjust reportable quantities for these chemicals.

Objective 5: Provide Technical Support to Enforcement, Program and Regional Offices. This research provides review of remedial action design, implementation plans, and review of new data submitted by liable parties for specific site problems. Review and technical expertise is also provided to the Enforcement program and Regional offices.

Objective 6: Provide Quality Assurance Support for Superfund Program Requirements. This research program provides extensive support to the National Contract Laboratory Program. Activities include development and promulgation of analytical methods to measure and characterize samples from Superfund sites, and review and evaluation of quality assurance and quality control plans.

Objective 7: Provide Technology Transfer. This research program distributes information to the Program office, Regions, States and local authorities to assist them in Superfund site cleanups.

Objective 8: Conduct Alternative/Innovative Technology Research, Development and Demonstration. This research program fulfills the Agency's responsibility under SARA Section 311(b) to carry out a comprehensive program of research, development, and demonstration for the purpose of promoting the commercialization of innovative and alternative treatment, and monitoring technologies.

Objective 9: Conduct Health Effects/Risk Assessment and Detection Research. This research program fulfills the Agency's responsibility under SARA Section 311(c) to carry out a comprehensive program of research and development to enhance the Agency's scientific capabilities to detect, assess, and evaluate effects on, and risks to, human health from hazardous substances.

Objective 10: Manage University Hazardous Substance Research Centers. This program funds research and training related to the manufacture, use, transportation, disposal, and management of hazardous substances through a university based centers program as authorized under SARA Section 311(d).

Objective 11: Alternative/Innovative Treatment Technology Test Facility. This research will provide the funds to establish the Test and Evaluation facility at Edison, NJ, by providing required monitoring, emissions control, and other equipment for the facility.

Objective 13: Conduct Research at the Gulf Coast Hazardous Waste Research Center. The Gulf Coast Hazardous Waste Research Center is a university-based research center comprised of eight institutions of higher education and located at Lamar University. Under joint Agency and state funding, it will conduct hazardous waste research on issues indigenous to the Gulf Coast area.

Objective 14: Superfund Scientific Instrumentation. This research provides support for scientific instrumentation and equipment.

Objective 15: Small Business Innovative Research. This research program provides contracted funds to small businesses to develop innovative proposals which are relevant to the Agency's mission and which appear feasible.

SCIENTIFIC ASSESSMENT

1991 Program Request

The Agency requests a total of $4,467,300 supported by 16.6 total workyears for this program, all of which will be for the Hazardous Substance Superfund appropriation. This represents a decrease of $13,900 in funding and no change in total workyears.

Provide Techniques and Procedures for Site and Situation Assessment. Site-, chemical-, and situation-specific exposure assessment and risks assessments will be prepared to assist the Superfund program office, the Enforcement office, and Regions in evaluating the degree of hazard at uncontrolled waste sites during

the remedial investigation and feasibility study (RI/FS) process. Specific activities will include the preparation of health and environmental effects assessments and provisions of risk assessment advice on a rapid turnaround (48-hour) basis.

Support Reportable Quantities Regulatory Efforts. Chemical-specific health effects documentation (cancer and other chronic effects) will be provided to the Office of Emergency and Remedial Response (OERR) for use in adjusting the Reportable Quantity amounts for various hazardous substances. These two risk categories are among those which are considered by the program office in adjusting Reportable Quantity amounts of given hazardous substances to reflect the potential hazard associated with their release into the environment.

Provide Technical Support to Enforcement, Program and Regional Offices. Site- and chemical-specific health assessments will be prepared to assess the relative health risk associated with remedial activities at Superfund sites at which Enforcement has the lead for implementing remedial responses. The Regional Risk Assessment Review Group will conduct reviews of risk assessments submitted by EPA Regional offices. A Technical Support Center for health and risk assessment provides site-specific assistance to Regional, State, and local officials.

Conduct Hazardous Substances Health Effects/Risk Assessment and Detection Research. Scientific assessment research will develop toxicity assessments, risk characterization, and exposure assessment techniques. Screening techniques for early detection of adverse health effects, and improved measurement techniques for non-cancer health end-points will be developed. An extensive program of pharmacokinetics modeling, exposure assessment methodology development, and assessment methodology for chemical mixtures is planned.

1990 Program

In 1990, the Agency is allocating a total of $4,481,200 supported by 16.6 total workyears for this program, all of which is for the Hazardous Substance Superfund appropriation.

Site-, chemical-, and situation-specific exposure and risk assessments are being prepared to assist Superfund operations, Enforcement, and the Regional offices in evaluating alternative cleanup decisions at uncontrolled Superfund sites. Activities include development of health effects assessments, and provision of risk assessment advice on a rapid turnaround basis. Chemical-specific data are being provided on carcinogenicity and on chronic effects to support the Superfund activities necessary to adjust or establish the Reportable Quantities (RQ) for hazardous substances. The Regional Risk Assessment Review Group continues to operate. A Technical Support Center for health and risk assessment is being established.

1989 Accomplishments

In 1989, the Agency obligated a total of $4,154,500 supported by 15.0 total workyears for this program, all of which was from the Hazardous Substance Superfund appropriation.

The research program office produced approximately 50 health and

environmental effects documents, 50 rapid response health assessments, and 250 carcinogenic and chronic health effects documents for many hazardous substances to support Reportable Quantity adjustment. The research program assisted with health and risk assessments of sites for the Enforcement office. Thirteen toxicological profiles were completed in 1989.

MONITORING SYSTEMS AND QUALITY ASSURANCE

1991 Program Request

The Agency requests a total of $13,568,000 supported by 27.2 total workyears for this program, which will only be for the Hazardous Substance Superfund appropriation. This represents an increase of $237,400 and no change in total workyear. The increase reflects additional support for field sampling quality assurance research, and also provides for increased personnel and support costs.

Provide Techniques and Procedures for Site and Situation Assessment. Monitoring procedures for all media will be evaluated, validated, and standardized. Analytical protocols, sampling techniques, and data interpretation approaches will be prepared. Techniques to be investigated include air monitoring techniques for ambient and source sampling, sample preparation methods, automated data transfer techniques, geophysical methods, and remote sensing techniques.

Provide Technical Support to Enforcement, Program and Regional Offices. Site-specific technical assistance, monitoring, and characterization support will be provided to the program and Regional offices in response to their needs for accurate and precise site-specific data. This will include providing aerial imagery, photographic interpretation, and maps for pre- and post remedial site assessment. Oversight reviews for the monitoring portions of settlement agreements will be provided. In addition, support will be provided in the areas of ground water sampling, network design, use of geophysical techniques, and analytical methods.

Conduct Hazardous Substances Health Effects/Risk Assessment and Detection Research. Support for field sampling quality assurance research will be increased. This research will document and improve the precision and accuracy of field aspects of data collection methods used for all media at Superfund sites. The research program office will continue to develop advanced field monitoring techniques for measurement of hazardous substances. Technologies which are now primarily used in the laboratory will be adapted and further developed for field use to provide techniques and methods that allow more focused, complete, expedient, and cost-effective field monitoring for common hazardous substances at Superfund sites. The application of these in-the-field monitoring techniques and methods will accelerate site cleanup and reduce costs. Research activities will focus on the development, evaluation, and standardization of field analytical and sampling methods; development of cost effective sampling designs and approaches; and development of techniques for managing and interpreting field data. Immunoassay systems for screening single compounds or classes of compounds, field portable systems such as fiber optics chemical sensors, and x-ray fluorescence will be targeted for activity. Since volatile organic compounds are the most common contaminants at Superfund sites, initial analytical and sampling efforts will focus on these compounds. New screening methods for exposure assessment (exposure biomarkers) will be developed.

Provide Quality Assurance Support for Superfund Program Requirements. Quality assurance support will be provided to the Contract Laboratory Program (CLP) to ensure that data of known and documented quality are used in the Superfund program. A quality assurance program provides the basis for determining the accuracy of data used to make operational decisions. Quality assurance reference materials, such as calibration standards, quality control samples and performance evaluation samples will be prepared and distributed according to uniform and consistent protocols, for analysis by contract laboratories. The analytical data generated by the laboratories are audited in order to assess intra- and inter-laboratory performance and methods performance. This data is maintained in the Quality Assurance/Quality Control Data Base. Pre-award and post-award on-site contract laboratory inspections are performed to complement the performance evaluations.

Conduct Alternative/Innovative Technology Research, Development and Demonstration. Resources in 1991 will be used to demonstrate and evaluate innovative monitoring technologies. This will be a cooperative program with the private sector to determine technology applicability to Superfund site assessment and pollutant characterization. Monitoring techniques lacking private sector support, which are not ready for demonstration, and will also be evaluated and further developed for validation and demonstration. Technologies to be investigated will be selected from candidates currently being researched and/or developed in the private sector.

1990 Program

In 1990, the Agency is allocating a total of $13,330,600 supported by 27.2 total workyears for this program, all of which is for the Hazardous Substance Superfund appropriation.

Innovative technologies and approaches that offer potentially significant cost and time savings to Superfund site investigations are being given priority. A range of technologies meeting the above criteria will be studied in the area of advanced field monitoring methods, including field portable x-ray technology for metals detection, fiber optic technology for in-situ ground water monitoring, immunoassay methods for organics detection, field portable gas chromatography for volatile organics monitoring, and canister-based air samplers for detection of volatile organics. Field sampling quality assurance research has been introduced in 1989. This research effort will focus on developing standardized sampling guidance and audit procedures. Site and situation assessment procedures, such as analytical protocols, sample preparation procedures, and data interpretation procedures are being developed, evaluated, or demonstrated. Site-specific technical assistance will continue to be provided in numerous areas, including remote sensing, geophysical support, sampling and monitoring, and Geographic Information Systems (GIS). Quality assurance support will also be provided in 1990. Pre- and post-award on-site contract laboratory inspections are being performed to complement the performance evaluation studies.

1989 Accomplishments

In 1989, the Agency obligated a total of $13,060,400 supported by 26.2 total workyears for this program, all of which was from the Hazardous Substance Superfund appropriation.

Site-specific technical assistance was provided by the research program office during 1989. Topographic maps and aerial images (photographs) were analyzed as part of the program's remote sensing support. Support continued to enhance user competency of Geographic Information Systems (GIS). The research program office also provided quality assurance support, including reference materials, performance evaluation samples, and laboratory audits to EPA Regional offices.

HEALTH EFFECTS

1991 Program Request

The Agency requests a total of $3,804,500 supported by 3.0 total workyears for this program, all of which will be for the Hazardous Substance Superfund appropriation. This represents an increase of $237,800 in funding and no change in total workyears. This increase reflects expanded support for research on bioavailability parameters, and increased personnel and support costs.

Conduct Hazardous Substances Health Effects/Risk Assessment and Detection Research. This research program provides improved evaluation measures and data to detect, assess, and evaluate human health risk from hazardous substances at Superfund sites. This research includes providing methods to evaluate the hazard potential of waste mixtures, screening techniques for early detection of adverse health effects, and identification and improvement of measures of health endpoints, particularly non-cancer endpoints such as reproductive effects and neurotoxicity. Results will be used to assist Remedial project managers in assessment of risks at sites, to update the Superfund Human Health Evaluation Manual, and to provide guidance on pharmacokinetics and bioavailability parameters in risk assessment.

1990 Program

In 1990, the Agency is allocating a total of $3,566,700 supported by 3.0 total workyears for this program, all of which is for the Hazardous Substance Superfund appropriation.

In 1990, the health effects research program is working to provide methods to detect, assess, and evaluate the risks to human health from hazardous substances associated with Superfund sites. Test methods (integrated bioassay protocol) developed for the evaluation of hazard potential of waste mixtures are being applied to test single and mixtures of chemicals in order to evaluate constraints to apply to the additivity assumptions now used in mixtures risk assessment. Research continues to focus on improving the Superfund risk assessment process and is coordinated with the scientific assessment program and activities of the Program office, as well as, with the research activities of both the National Institute of Environmental Health Sciences (NIEHS) and the Agency for Toxic Substances and Disease Registry (ATSDR). In addition, an in-situ assay is being developed for use in post-cleanup toxics assessment at Superfund sites. Biological markers are being developed to assess relationships between exposure, dose absorbed, and target tissue dose.

1989 Accomplishments

In 1989, the Agency obligated a total of $3,904,800 supported by 3.3 total workyears for this program, all of which was from the Hazardous Substance Superfund appropriation.

Development was completed on an integrated bioassay protocol for multiple health endpoints. A symposium was held on the in-situ evaluation of effects of hazardous substances, dose measurement techniques, and development of methods for predicting neurotoxic effects from complex mixtures.

ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

1991 Program Request

The Agency requests a total of $31,303,900 supported by 56.8 total workyears for this program, all of which will be for the Hazardous Substance Superfund appropriation. This represents a decrease of $8,286,800 and no change in total workyears. The decrease reflects the combined effects of several factors. Funding for the Gulf Coast Research Center was eliminated and support for evaluating Superfund cleanup technologies, treatability studies, and technical support to response and cleanup activities was reduced due to the decision to allocate Superfund resources to higher priority research.

Provide Techniques and Procedures for Site and Situation Assessment. Engineering expertise and assessment procedures will be provided to assist the Superfund program in RI/FS studies at specified Superfund sites. Information will be provided on the cost and effectiveness of remedial action technologies for specific sites based on data collected from surveys and technology evaluations. Emphasis will be placed on the development of support tools to assist with RI/FS activities. Information will be provided on the biochemistry and genetics of PCB degradation by bacteria, and on the evaluation of solidification techniques for hazardous waste treatment.

Evaluate Technologies to Manage Uncontrolled Waste Sites. Development and evaluation of Superfund cleanup technologies will be supported at a lower level. Evaluations will be conducted on technologies which are being developed as cleanup tools for Superfund sites but which are not yet at the stage of being available for field application. Research activities will continue to focus on technologies involving extraction, degradation and/or detoxification, immobilization studies for solidification and/or stabilization of contaminated material combustion research, biosystems and/or stabilization biosystems technology, in-situ techniques for large municipal waste NPL sites, cross-media impacts of technologies, and BDAT development of Superfund wastes. Increased emphasis will be placed on biosystems research due to its potential to significantly reduce the cost of site cleanups and because the private sector has shown limited interest because of the high economic risks.

Provide Technical Support to Enforcement, Program and Regional Offices. Technical support will be provided at a reduced level to Agency and State personnel on engineering issues that arise during emergency and remedial responses at Superfund sites for case support. Information from Superfund research will be provided to ensure that the latest available procedures and technologies are

employed.

Conduct Alternative/Innovative Technology Research, Development and Demonstration. The innovate treatment technology demonstration program (SITE) will focus on separation, chemical stabilization, detoxification, and destruction technologies that provide potential for improvement in cleanup at Superfund sites. SITE is composed of a field demonstration and evaluation component, an emerging technology component that cost shares development of promising technological ideas from the concept stage to pilot scale demonstration, and a technology transfer component which consists of project evaluation reporting and the SITE clearinghouse. Ten additional field demonstrations will be conducted and eight new emerging technologies projects will be added.

Conduct Research at the Gulf Coast Hazardous Substance Research Center. This Center was jointly funded by EPA and the State of Texas through a cooperative agreement to research hazardous waste technological issues indigenous to the Gulf Coast area. It is a consortium of eight institutions of higher education, with Lamar University serving as grantor. No funding is included for the Center in 1991, due to the need to allocate limited Superfund research resources to higher priority programs.

1990 Program

In 1990, the Agency is allocating a total of $39,590,700 supported by 56.8 total workyears for this program, all of which is for the Hazardous Substance Superfund appropriation.

In 1990, the engineering research program is working to provide improved and innovative technologies for cleaning up Superfund sites more economically. There is expanded research into the use of biological degradation (biosystems) for such cleanups. The SITE information clearinghouse is being expanded by the addition of a computer system that integrates all components of the clearinghouse. Ten additional SITE field demonstration projects are planned and eight new emerging technology projects will be selected for evaluation. The 1991 solicitation will be made in 1990 and call for projects that deal with treatment of contaminated soils and sludge. Equipment for the Test and evaluation Facility will be procured.

1989 Accomplishments

In 1989, the Agency obligated a total of $31,639,500 supported by 47.5 total workyears for this program, all of which was from the Hazardous Substance Superfund appropriation.

During 1989, the research program provided engineering technical support to review site assessment and feasibility plans and advise on remedial action were demonstrated. Research continued on the demonstration of in-situ control technologies with focus on activities in the most promising combined systems at field-scale application. Research continued in the SITE program to demonstrate on-site control technologies that can extract, degrade, detoxify, or immobilize contaminants. Field demonstrations were completed in the area of thermal extraction technologies, solidification and/or stabilization, in-situ vacuum extraction, and solvent extraction. Emerging technologies projects were initiated.

ENVIRONMENTAL PROCESSES AND EFFECTS

1991 Program Request

The Agency requests a total of $7,488,500 supported by 20.5 total workyears for this program, all of which will be for the Hazardous Substance Superfund appropriation. This represents an increase of $1,066,500 and no change in workyears. The increase reflects additional resources for technical support for subsurface modeling for the Superfund research program, ecological risk assessment, and for increased personnel and support costs.

Develop Technologies to Manage Uncontrolled Waste Sites. Environmental processes research will be conducted on the cleanup potential of in-situ biodegradation techniques (biosystems) related to contaminated soils and ground water. Research activities in this area are integrated with biosystems research in the engineering program and is an integral part of the efforts needed to bring these new, less costly, cleanup technologies to the field for use in achieving permanent site remediation as required by SARA. Research activities will include characterizing the subsurface biological, chemical, and physical processes that promote in-situ bio-remediation; environmentally enhancing the metabolic capabilities of indigenous microorganisms for biodegradation; and genetically manipulating microorganisms to design microbial strains with novel and enhanced biodegradation characteristics. Research will also focus on the ecological effects that might be associated with these biodegradation technologies. Potential environmental and health effects associated with genetically engineered organisms will be evaluated.

Provide Technical Support to Enforcement, Program and Regional Offices. Additional technical support will be provided to Agency and State personnel on the use of subsurface models, sampling and analytical techniques, assessment of contaminated marine coastal areas, development of exposure/risk assessment methodologies, and the application of bioassessment protocols for determining the toxicity of contaminated sites and samples. Evaluation of subsurface processes leading to mobilization and remediation of contaminant in soil and ground water will be significantly increased. The bioassessment protocol will be applied at actual Superfund sites for validation of the technique under rigorous, complex waste situations. These activities are needed to support program office activities to prioritize sites on the basis of their risk.

Conduct Health Effects/Risk Assessment and Detection Research. A new program will develop, evaluate, and document methods for estimating ecological risks posed by hazardous waste spills and/or sites, and for determining the relative risk reduction afforded by various cleanup options.

1990 Program

In 1990, the Agency is allocating a total of $6,422,000 supported by 20.5 total workyears for this program, all of which is for the Hazardous Substance Superfund appropriation.

Research is being initiated on the cleanup potential of in-situ biodegradation techniques related to contaminated soils and ground water. This research is closely coordinated with the engineering evaluations of techniques to prevent the migration of hazardous substances into ground water, and will be

instrumental in determining whether biodegradation methods are potentially cost-effective alternatives to soil excavation or withdrawal, and treatment of contaminated ground water. Technical support is being provided to Agency and State staffs for site- and case-specific issues.

1989 Accomplishments

In 1989, the Agency obligated a total of $4,893,800 supported by 8.2 total workyears for this program, all of which was from the Hazardous Substance Superfund appropriation.

During 1989, technical support was provided in response to specific requests from EPA Regions, Enforcement, and States on ground water sampling, analyses, data interpretation, and site-specific modeling. Plume movement and biological stabilization of subsurface contaminants were evaluated, and uptake of contaminants by fish was studied.

TECHNICAL INFORMATION AND LIAISON

1991 Program Request

The Agency requests a total of $1,015,700 and 5.0 total workyear for this program, all of which will be for the Hazardous Substance Superfund appropriation. This represents a decrease of $670,400 and no change total workyears. The decrease in funding reflects the one time add in 1990 to implement the 90 day Management Review recommendations.

Provide Technology Transfer. This activity provides technology transfer and training assistance on issues relevant to the Superfund cleanup program for the Program office, EPA Regions, and States.

1990 Program

In 1990, the Agency is allocating a total of $1,686,100 supported by 5.0 total workyear for this program, all of which is for the Hazardous Substances Superfund appropriation.

This research program is coordinating technology transfer activities, and delivering technological information and training to the Program office, Regions, States and contractors responsible for cleanup activities. This activity enhances the effective, timely, and efficient planning of permanent solutions in Superfund response actions.

1989 Accomplishments

In 1989, the Agency obligated a total of $798,700 supported by 2.1 total workyears for this program, all of which was from the Hazardous Substance Superfund appropriation.

This research program developed mechanisms to coordinate ORD technology transfer activities, and delivered technological information to the program office, Regions, States and contractors responsible for cleanup activities.

EXPLORATORY RESEARCH

1991 Program Request

The Agency requests a total of $9,435,500 and 1.0 total workyear for this program, all of which will be for the Hazardous Substances Superfund appropriation. The increase of $756,000 will support additional resources for scientific instrumentation, targeted research grants, the Research Centers program, Small Business Innovative Research, and to provide for increased personnel and support costs. There is no change in total workyears.

Conduct Hazardous Substances Health Effects/Risk Assessment and Detection Research. Targeted grants in the area of in-situ treatment of hazardous waste and monitoring for Superfund site assessments will be awarded. In addition, targeted grants in two new areas of research relevant to the Superfund program will be initiated. Approximately ten new grants will be awarded in 1991.

Manage University Hazardous Substances Research Centers. Five competitive Hazardous Substances Research Centers will continue to fund research and training in areas related to the manufacture, use, transportation, disposal, and management of hazardous substances. This research program is considered by EPA to be an important part of the overall multidisciplinary research program to address health, environmental, and engineering issues associated with hazardous substances. This university based program will foster the application of academic expertise in basic research to Superfund issues.

Superfund Scientific Instrumentation. This research program provides scientific instrumentation support to ORD research. Resources for 1991 will purchase needed equipment such as gas and high pressure liquid chromatographs, emission spectrometers, and other bench testing equipment and instruments.

Small Business Innovative Research (SBIR). This research program provides contracted funds to small businesses to develop innovative proposals which are relevant to the Agency's mission and which appear feasible. This research program is mandated by the Small Business Innovative Research Act. The SBIR program will focus on projects in control technology or process instrumentation development.

1990 Program

In 1990, the Agency is allocating a total of $8,679,500 supported by 1.0 workyears for this program, all of which is for the Hazardous Substance Superfund appropriation.

In 1990, a targeted grants program is funding research on hazardous waste abatement and control with the focus on heavy metal removal technologies. Support for the University Hazardous Substances Research Centers was continued.

1989 Accomplishments

In 1989, the Agency obligated a total of $14,701,900 supported by 1.0 workyears for this program, all of which was from the Hazardous Substance Superfund appropriation.

Five competitive Hazardous Substance Research Centers were established to

perform long-term and short-term research, as well as technology transfer activities related to the manufacture, use, transportation, disposal, and management of hazardous substances. Twelve new targeted research grants were awarded with the focus on biodegradation of hazardous substances at Superfund sites.

Hazardous Substance Response

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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SUPERFUND
Hazardous Substance Response

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Hazardous Spill & Site Response					
Hazardous Substance Superfund	1114,446.9	1149,593.4	1062,634.2	1258,772.7	196,138.5
TOTAL	1114,446.9	1149,593.4	1062,634.2	1258,772.7	196,138.5
TOTAL:					
Hazardous Substance Superfund	1114,446.9	1149,593.4	1062,634.2	1258,772.7	196,138.5
Hazardous Substance Response TOTAL	1114,446.9	1149,593.4	1062,634.2	1258,772.7	196,138.5
PERMANENT WORKYEARS					
Hazardous Spill & Site Response	1,077.2	831.7	1,239.7	1,293.5	53.8
TOTAL PERMANENT WORKYEARS	1,077.2	831.7	1,239.7	1,293.5	53.8
TOTAL WORKYEARS					
Hazardous Spill & Site Response	1,146.0	1,331.7	1,294.4	1,293.5	-.9
TOTAL WORKYEARS	1,146.0	1,331.7	1,294.4	1,293.5	-.9

Hazardous Substance Response - Environmental Protection Agency

Budget Request

The Agency requests a total of $1,258,772,700 for the Hazardous Substance Superfund appropriation. Of the resources, $77,625,800 will be for administrative expenses to support 1,293.5 total workyears. This resource level represents an increase of $196,138,500 and a decrease of 0.9 total workyears from 1990. The increase in funds will be used to carry out response activities at projects in the design and construction phases of the remedial process.

In 1990, the Agency is allocating a total of $1,062,634,200 from the Hazardous Substance Superfund appropriation. Of these resources, $70,857,700 is for administrative expenses to support 1,294.4 total workyears.

In 1989, the Agency obligated $1,114,446,900 for the Hazardous Substance Superfund. Of these resources, $63,002,400 was for administrative expenses to support 1,146.0 total workyears.

PRE-REMEDIAL PROGRAM

1991 Program Request

The Agency requests a total of $76,629,700 for the Pre-remedial Program from the Hazardous Substance Superfund appropriation. This represents a decrease of $6,504,300 from 1990 levels. The majority of these resources support preliminary assessments (PA) and site inspection (SI) activities conducted at potential Superfund sites. SIs were decreased by 400 and Listing Site Inspections (LSI) by 75 in order to fund activities already in the remedial pipeline.

In the first full year after the implementation of the revised Hazard Ranking System (HRS), EPA will focus on training and execution of the HRS. Priorities will be given to the following activities: 1) conducting training programs for the Pre-remedial staff, state and tribal personnel, and appropriate contractors; 2) continuing to handle PAs at all sites within one year of listing in the program's CERCLA Information System (CERCLIS); 3) performing screening site inspections at all sites recommended for further evaluation based on their relative potential environmental impact; and 4) conducting LSIs at the highest priority sites determined likely to score above the revised HRS cutoff.

1990 Program

In 1990, the Agency is allocating a total of $83,134,000 from the Hazardous Substance Superfund appropriation for the Pre-remedial Program. The Agency is making steady progress toward eliminating the SI backlog while stressing its commitment to complete response activities at pre-Superfund Amendments and Reauthorization Act (SARA) sites according to the "worst sites first" strategy. In addition, the program will continue to: 1) conduct PAs within a year of listing in CERCLIS; 2) implement a "no hiatus" policy in conducting SIs during

the transition to the revised HRS; 3) review all completed SIs to determine which sites require a LSI or the development of HRS listing packages; 4) evaluate the Multi-Site Cooperative Agreements (MSCA); 5) encourage state and Indian Tribe participation in the development of Pre-remedial guidance; and 6) use the Field Investigation Team and states to conduct site assessment work.

1989 Accomplishments

In 1989, the Agency obligated a total of $76,217,000 for the Pre-remedial Program from the Hazardous Substance Superfund appropriation. The program has completed 2,228 PAs at potential Superfund sites and reviewed 66 PAs conducted by other agencies to ensure their compliance with CERCLA and SARA. At the end of September 1989, EPA had conducted 1,675 SIs, exceeding the target of 1,250. In addition, the program reviewed 57 SIs at Federal facilities and scored 25 sites using the HRS. EPA completed 101 site listings for the NPL and proposed an additional 65 sites for listing.

As of September 30, 1989, the following items have been accomplished since the start of the Superfund program. At the 31,904 Superfund sites which have been entered into CERCLIS, the program has completed PAs at 29,714 (96 percent). The program has conducted SIs at 10,863 facilities, representing 34 percent of those facilities which have had a PA. A recent analysis shows that 14,341 sites have evidenced no need for further action. At the end of 1989, 2,075 sites have been scored by the HRS. The number of sites which are currently on the NPL is 1,225, of which 337 are proposed for final listing. Federal facilities account for five percent of the NPL facilities to date.

REMEDIAL INVESTIGATION/FEASIBILITY STUDY (RI/FS)

1991 Program Request

The Agency requests a total of $55,650,000 for this program from the Hazardous Substance Superfund appropriation. This represents a decrease of $42,850,000 from 1990 levels. The Agency plans to shift resources from RI/FS to support the remedial projects that will be ready for construction or are in the construction phase of the remedial process.

EPA will start a modest number of RI/FSs to improve EPA's bargaining position with potentially responsible parties (PRPs). Resources will also support several large scale projects and ongoing RI/FS activities. Workyear allocations in this program will support increased interaction with the community, enhanced supervision of direct site activities, and increased oversight of contractors. The program will also build upon the National Contingency Plan (NCP) and the initiatives of the Administrator's Superfund Management Review (SMR). Guidance will be developed to streamline the operation of the Superfund program. This will be accomplished by making procedures and requirements clearer and more routine, and providing "model" products that can be used with minimal additional work.

1990 Program

In 1990, the Agency is allocating a total of $98,500,000 for this program from the Hazardous Substance Superfund appropriation. In the third year of the strategy to fully-fund all RI/FSs, the Agency is planning to initiate new Fund-financed RI/FSs at 50 projects and to start subsequent RI/FSs at 25 projects. Federal employees will conduct 16 of these RI/FSs using primarily in-house technical expertise. This initiative, which is fully implemented for the first time in 1990, is a training exercise designed to improve the efficiency and promote cost effectiveness in the RI/FS program.

The Agency is utilizing the issued guidance and technical assistance regarding the use of applicable relevant and appropriate requirements (ARARs). ARARs is currently being applied to standards-setting, as well as on early actions, streamlined RI/FSs, health risk assessment (public health evaluation), environmental evaluation, and implementation of the new remedy selection process. EPA is enhancing the quality control of risk assessment activities during the RI/FS phase. In addition, the RI/FS Program underscores the importance of the evaluation and selection of alternative technologies and the use of on-site technologies. Treatability studies, funded from the Remedial Support Program, are an important part of the RI/FS and ensure that adequate data exist to effectively evaluate each technology prior to remedy selection.

1989 Accomplishments

In 1989, the Agency obligated a total of $96,900,000 for this program from the Hazardous Substance Superfund appropriation. At the end of 1989, first RI/FSs were initiated at 45 sites, and 32 subsequent RI/FSs were started. Through the end of the year, 55 first and 26 subsequent Fund-financed Records of Decision (ROD) were signed at NPL sites. The program also implemented the guidance for the NCP entailing a site specific balancing process in which nine criteria are analyzed to make a decision concerning the final remedy selection for a project.

REMEDIAL DESIGN (RD)/REMEDIAL ACTION (RA)

1991 Program Request

The Agency requests a total of $618,975,000 for the RD and RA stages of the Remedial Program for the Hazardous Substance Superfund appropriation. This total amount includes $31,875,000 for projects with PRP oversight and $587,100,000 for Fund-financed projects. This request represents an increase of $236,237,500 to support additional new and ongoing remedial design and construction activities from 1990 levels.

The program will initiate 200 designs at remedial projects. Of these, 102 will be conducted by PRPs. RAs will commence at 124 projects with PRPs financing 85 of these projects. EPA estimates that the PRPs will assume almost 70 percent of design and construction work in 1991. The Hazardous Substance Superfund will assume responsibility for all projects where PRP response is not achieved.

The Agency will continue to implement management initiatives related to the remedial program which include: 1) implementing improvements to expedite the remedial design and construction process; 2) expanding support to Regional contracting programs and establishing contracting cost controls; 3) ensuring adequate administrative support for Remedial Project Managers (RPMs); and 4) providing necessary training for RPMs. The Agency will continue to implement management initiatives begun during 1989 to improve the retention, preparation, and recruitment of RPMs.

1990 Program

In 1990, the Agency is allocating a total of $382,737,500 for this program from the Hazardous Substance Superfund appropriation.

The RA prioritization criteria, developed during 1989, will be fully implemented in 1990. Environmental prioritization is the primary consideration in determining what sites are supported for Fund-financed construction. The prioritization criteria are based on the following principles: 1) protection of human health ; 2) actual threats to sensitive ecosystems and endangered species; and 3) increased priority as the risk becomes closer in time. In order for Regions to propose sites, they must have conducted the following activities: 1) a thorough PRP search; 2) an evaluation of large scale projects to determine whether aspects of the project can be partially funded without increasing cost or risk to health or the environment; 3) a determination that the project will be ready for construction when funds become available; and 4) a confirmation that the state has signed the Superfund State Contract to pay its share of the construction costs.

The Trust Fund fully supports the oversight of PRP work, all ongoing construction activity, long-term maintenance of remediated sites, and projects receiving both Federal and private funds. Designs are scheduled to take place at 154 remedial projects; PRPs are financing the design at 83 of these projects. The program will also start remedial actions at 75 projects; PRPs are expected to conduct 55 of these actions. The Agency also performs long-term activities at these sites, after the RA is completed, to ensure that the hazardous condition(s) has been effectively remedied.

1989 Accomplishments

In 1989, the Agency obligated a total of $457,692,200 for this program from the Hazardous Substance Superfund appropriation. The program initiated remedial design activity at 154 projects and began final remedial designs at 77 projects. As of September 30, 1989, remedial design activity has been initiated at 374 NPL sites.

The program began on-site remedial action at 178 NPL sites, surpassing the statutory requirement to start 175 since SARA's enactment. Of these, the program initiated 74 first RA starts during 1989, exceeding the end-of-year target of 67. Forty-three of the starts were PRP-financed and 31 were Fund-financed. Final remedial action was initiated at 34 NPL sites, over the end-of-year target of 33. Twenty-three of these actions were PRP-financed. The program deleted six sites from the NPL.

As of September 30, 1989, the following items have been accomplished since the start of the Superfund program. The program has remedies in place at 259 NPL sites. Of these 259 sites, 139 (54 percent) are Fund-financed. Construction has been completed at 52 NPL sites. The program has deleted 28 sites from the NPL. Post-closure monitoring will be continued at the remaining sites to provide the remedy verification needed for future deletion from the NPL.

REMOVAL ACTIONS

1991 Program Request

The Agency requests $104,500,000 for the Removal Program from the Hazardous Substance Superfund appropriation. Resources will be used to remove hazardous substances at 110 classic and time-critical emergencies at NPL sites. In addition, 80 removals will be conducted at non-NPL sites. The program will remain at a stable level of activity from 1990 with no major changes in policy or direction.

The Agency will continue to use the expanded removal authorities for emergency actions. The Removal Program will remain in a steady state as it continues to stabilize NPL sites where significant threats exist while additional long-term response is being considered. Top priority will continue to be given to: classic emergencies involving incidents (e.g., threats of fire or explosion) where response is generally necessary within a matter of hours; time-critical removals at sites on the NPL, to make these sites safe from immediate threats while they await remedial action; and time-critical removals at non-NPL sites posing major health and environmental threats which cannot be addressed by other authorities.

1990 Program

The Agency is allocating $105,250,000 for removal actions from the Hazardous Substance Superfund appropriation. These efforts enable the Agency to take immediate action to protect public health and the environment without waiting for the completion of a long-term analysis of the site or the results of more detailed site assessments. In addition to responding to emergencies, removals are taken where an immediate response is not critical, but some early response is necessary to protect public health or the environment. The Agency is planning to provide emergency responses at 190 major hazardous substance releases.

1989 Accomplishments

In 1989, the Agency obligated a total of $106,401,400 for removal actions from the Hazardous Substance Superfund appropriation. These resources were used to initiate removal actions at 41 NPL sites and at 195 non-NPL sites. In addition, removal actions were completed at 41 NPL and 133 non-NPL sites. Completions included sites that were initiated in previous years.

RESPONSE SUPPORT

1991 Program Request

The Agency requests a total of $124,175,400 for the Response Support Program from the Hazardous Substance Superfund appropriation. This represents an increase of $10,890,400 from 1990 levels. The resources for this program increase due to the additional sources of increased technical information and requests for sampling data and analysis from the Contract Laboratory Program (CLP).

The majority of these resources support: sample analysis services; technical training for On-Scene Coordinators (OSCs), RPMs, and states; policy analysis; and budget development. The Response Support Program will continue to ensure that the training and transfer of technology from the Office of Research and Development, other Federal agencies, and the private sector is available to OSCs, RPMs, state employees, and Superfund contractors. Activities undertaken to ensure the transfer of information and technologies will include: 1) using aerial imagery and photography for site identification and assessment; 2) providing chemical-specific fate/transport data for a specific medium exposed by the receptors; 3) providing active site-specific support in the removal and remedial action process of technology selection; and 4) providing advice and guidance on the use and limitations of mathematical models including uncertainty analysis.

In addition, the Superfund Innovative Technology Evaluation (SITE) program will continue to accelerate the development, demonstration, and use of innovative treatment technologies. The emerging technologies component of the program will receive the greatest emphasis during 1991. This aspect will focus on bench scale evaluation, identification of promising projects, and efforts to prepare selected technologies for evaluation in the demonstration phase.

The Response Support Program will continue its responsibilities for sample analysis and data review for all phases of the pre-remedial, remedial, and removal programs. The quality assurance (QA) program provides support to the CLP, which is responsible for most contract chemical analyses under the Superfund program. According to uniform and consistent protocols, quality assurance reference materials such as calibration standards, quality control samples, and performance evaluation samples are designed, prepared, and distributed for analysis by contract laboratories. In addition, the program will continue to be active in assisting the states with establishing their own QA Programs.

1990 Program

In 1990, the Agency is allocating a total of $113,285,000 for the Response Support Program from the Hazardous Substance Superfund appropriation. During 1990, the program's management systems are implementing changes to better support the Agency's strategic planning process. Key themes to these changes are: 1) ensuring that the program's systems recognize complexity, quality, and environmental benefit in assessments of program performance; 2) increasing the flexibility for program managers to focus finite resources on activities with the greatest impact; 3) placing greater emphasis on measuring results, both

environmental and administrative, rather than only measuring activities; 4) implementing the Total Quality Management process to identify and eliminate wasted employee efforts; and 5) developing information which will facilitate evaluation by our managers on a quarter-by-quarter basis.

The SITE program is an example of the program's efforts to assess the quality of environmental benefits. The program continues to be fully operational in 1990. In addition to promoting the use of innovative treatment technologies, the program conducts full-scale evaluations of technologies at Superfund sites under joint EPA and private developer funding.

The Integrated Priorities Matrix is a tool for program managers to use when determining which Superfund activities have the greatest impact. The Matrix, developed in 1989, establishes general program priority setting in the event of scarce resources. The program is implementing two major initiatives to better measure program success and publicize its progress to the public. The program's new accountability system, "Strategic Targeted Activities for Results", places an emphasis on tracking selected and results-oriented activities, wherever possible. In addition, the program uses environmental indicators to assess environmental progress. Through CERCLIS and the associated local area network, the program provides quarterly information to managers and staff.

Other Response Support activities include sample analysis, preparedness, budget formulation, strategic planning, policy and program evaluation, financial accounting and tracking, and administrative services. The sample analysis and management activities conducted by the CLP, the Environmental Services Divisions and the states continue to be a primary component of the Response Support Program. By the end of 1990, the program's 92 sample analysis laboratories will have analyzed up to 130,000 samples; of these, 42 percent will be inorganic and dioxin analyses. The Chemical Emergency Preparedness and Prevention Program, whose goal is to prevent and prepare for chemical accidents, continues to prepare state status reports, emergency response simulation exercises, and chemical safety audits.

1989 Accomplishments

In 1989, the Agency obligated a total of $101,423,000 from the Hazardous Substance Superfund appropriation. The program began to implement the recommendations of the SMR, published in May of 1989. The SMR places emphasis on ensuring that the pipeline is maintained and that sites are moving through the pipeline as quickly as possible. The strategy set forth in the SMR directs the program to address the worst sites first, removing the sources of immediate threat and then, on a priority basis, dealing with the sources of long-term risk.

EPA continued an assessment of progress made toward reducing health and environmental risks at Superfund sites through the use of environmental indicators. The Agency plans to use these indicators to communicate to the Congress, the media, and the public actual environmental progress made by the Superfund program during the remedial process. Thus, in addition to citing the number of sites moving through the pipeline as proof of the achievements of the program, EPA has established a process to document specific environmental progress made at sites in each stage of the pipeline.

The success of the Response Support program is evident in the expansion of field activities and quality assurance procedures for sample analysis and the revision of the NCP and HRS. Specifically, the laboratory support program conducted a total of 104,990 samples, of which 67,777 were routine analytical samples and 37,213 were special analytical samples. EPA has been very active in researching and developing new technologies to be used in response activities. EPA awarded 12 grants for research and development and issued two additional solicitations for proposals. In addition, EPA established several Hazardous Substance Research Centers and an Alternative Treatment Technology Information Center in response to the SMR recommendations. EPA also published a number of information manuals concerning technology related research and development.

REMEDIAL SUPPORT

1991 Program Request

The Agency requests a total of $120,500,000 for the Remedial Support Program for the Hazardous Substance Superfund appropriation. This represents a decrease of $17,545,000 from 1990. The decrease in resources is attributed to the full implementation of the Alternative Remedial Contracts Strategy (ARCS).

The majority of these resources support remedial contract management activities, technical assistance and treatability studies for remedial projects, and grants to states and local groups. The Agency will proceed with the implementation of several management initiatives related to the Remedial Support Program. Resources will be used to ensure that states provide assurance, through the Capacity Assurance Plan (CAP) process, and that sufficient hazardous waste capacity will exist to manage wastes generated in the state during the next 20 years. The program will also continue to encourage states to enter into Cooperative Agreements, state Memorandum of Agreements (SMOA) or other management assistance agreements where the state expects to play a significant role. EPA will also continue to encourage the maximum involvement of Indian Tribes in planning and implementing all response activities. In addition, EPA will increase its efforts to improve public confidence and initiate dialogue with national interest groups and local community groups. The Agency will also continue to provide grants to local interest groups through the Technical Assistance Grants (TAG) Program, administer Core Grants to the states, and monitor the projects queued for remedial construction.

1990 Program

In 1990, the Agency is allocating a total of $138,045,000 for this program from the Hazardous Substance Superfund appropriation. The program continues to assess and evaluate the Remedial Program for improvements and management initiatives. Some of these initiatives are to: improve the process for conducting RI/FS; evaluate design and construction performance; implement appropriate improvements expanding Regional contract support capacity; enhance contract cost controls; and ensure adequate training and administrative support for RPMs.

The program encourages a balanced approach to site work, and advocates that both PRPs and states assume responsibility for remedial activities. The program will be making full use of construction management expertise available from the U.S. Army Corps of Engineers (COE) and the Bureau of Reclamation (BUREC), Department of the Interior. The program will be assigning oversight responsibility to the COE or BUREC for approximately 25 percent of PRP and Fund-financed RD and RA projects started in 1990. States and Indian tribes are being consulted throughout the project planning process to ensure integrated and coordinated response to hazardous situations. The program expects to have a total of 16 SMOAs in place by the end of 1990. In addition, EPA is making greater efforts responding to community concerns, executing the provisions of SARA and the NCP related to community involvement, and encouraging local participation in the TAG program, as enhanced by the 1989 revisions to the interim final rule.

1989 Accomplishments

In 1989, the Agency obligated $133,285,200 from the Hazardous Substance Superfund appropriation for the Remedial Support program.

The Agency implemented the ARCS Program, which obtains project management and technical services to support remedial response activities at NPL sites. The ARCS Program is based upon the concept of performance incentives. Quality of work performed on projects is directly related to the amount of future work received, as well as the level of fee awarded to contractors. Approximately 45 contracts were awarded during 1989.

EPA strengthened its partnership with states and Indian tribes through cooperative agreements and other mechanisms. EPA entered into 41 Core Program Cooperative Agreements (CPCA) with states and one to a Navajo Indian tribe. CPCAs may be secured by states or Federally recognized Indian tribes to conduct CERCLA implementation activities that are not related to specific sites, but to develop and maintain a state's or Tribe's ability to participate in CERCLA response. In addition, 26 TAGs were awarded to citizens groups, a substantial increase to the four TAGs awarded in 1988. Citizens groups can use the grants to employ technical advisors to interpret the problems and remedies associated with the local NPL site. During 1989, two SMOAs were finalized. This brings the total number of SMOAs to ten.

To satisfy the hazardous waste treatment or disposal capacity assurance requirements of CERCLA Section 104(c), a majority of states submitted CAPs. The CAPs addressed the states': 1) current hazardous waste management system; 2) hazardous waste minimization and recycling plans; 3) projected future hazardous waste generation, imports, and exports; and 4) projected future hazardous waste management systems. EPA also published an interim final rule, "Cooperative Agreements and Superfund State Contracts for Superfund Response Actions" and included a new Subpart F in the proposed NCP revisions that combines concepts from various sections of the existing NCP concerning state involvement in Superfund operations.

REMOVAL SUPPORT

1991 Program Request

The Agency requests a total of $80,716,800 for the Removal Support Program for the Hazardous Substance Superfund appropriation. This represents an increase of $9,891,800 from 1990. The increase in resources will support the two additional Technical Assistance Team (TAT) Contracts.

The majority of these resources are used to manage removal contracts which provide on-site technical services. Additional resources will support the emergency response operations of TAT and the Emergency Response Cleanup Services Contracts (ERCS), and an anticipated increase in the number of release notifications. The Agency will continue to receive and screen hazardous substance release notifications to determine what, if any, response is required. These resources will provide policy direction and technical support for removal activities, including the review of $2 million waiver requests and the expanded Continuing Release Regulations for release investigations at removal sites.

The EPA will continue to implement management initiatives begun in 1989 to improve the retention, preparation and recruitment of OSCs in order to enhance the effectiveness of the Superfund program. This effort involves many components, combined under the title "OSC/RPM Support Program." In addition, the program will continue to include full implementation of all of its components: career tracks and grades; the OSC/RPM Basic Training Academy; mentoring; continuing education; Superfund University Training Institutes; the Structured Training Evaluation Program; site/incident characterization; awards; professional organizations; workforce planning; and rotations.

1990 Program

In 1990, the Agency is allocating $70,825,000 for the Removal Support Program from the Hazardous Substance Superfund appropriation. These resources support 12,000 release notifications, 635 release investigations, and on-scene monitoring of hazardous substances at 135 sites. EPA expects to add three more ERCS in 1990 for a total of 17 contracts.

In addition, the regulatory and guidance framework are being completed for the Removal Program, including use of revised removal authorities and promulgation of final regulations on the notification, reportable quantities (RQ), and the designation of additional hazardous substances. The program establishes RQ levels for extremely hazardous substances, publishes technical updates for some of the RQs that have been promulgated, and implements the rules currently being developed. In the vast majority of cases, the PRP or state or local government will take the lead in addressing the problem. In situations where more than one state is involved or where there is an unusually complex problem, the Federal government coordinates and funds the response. EPA and the U.S. Coast Guard continue to maintain an emergency response capability, including EPA's Emergency Response Team, comprised of Agency employees with special engineering and scientific expertise. This inter-agency relationship improves the Agency's ability to provide timely engineering and scientific advice to Federal, state, and local officials during hazardous substance response actions and results in reliable and cost-effective solutions to existing and potential environmental threats.

1989 Accomplishments

In 1989, the Agency obligated $79,525,700 to the Removal Support Program from the Hazardous Substance Superfund appropriation. These resources were used to conduct 775 release investigations, 8,662 release notifications, and on-scene monitoring of hazardous substances at 315 sites. The program began to implement the SMR recommendation to make NPL sites safe, accelerate responses at NPL sites, and conduct removal assessments at all NPL sites. In October 1989, the program issued draft guidance on determining the safety of NPL sites and the requirements that must be met before a response may be accelerated. In addition, the program formally stated its commitment to conducting a removal assessment at all unaddressed NPL sites. This program provided administrative support personnel and training to assist OSCs in managing removal actions. The program continued to pursue a diversified contracting strategy with a shift to the Regions of some of the contracting responsibilities. The program awarded eight new Regional ERCS contracts bringing the total number to 14.

SUPERFUND
Hazardous Substance Response - Support

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
PROGRAM						
Hazardous Substance Response - OW						
Hazardous Substance Superfund		$1,757.9	$2,050.1	$2,055.3	$2,075.1	$19.8
	TOTAL	$1,757.9	$2,050.1	$2,055.3	$2,075.1	$19.8
Hazardous Substance Response - OAR						
Hazardous Substance Superfund		$2,026.5	$2,925.2	$2,922.6	$3,102.2	$179.6
	TOTAL	$2,026.5	$2,925.2	$2,922.6	$3,102.2	$179.6
TOTAL:						
Hazardous Substance Superfund		$3,784.4	$4,975.3	$4,977.9	$5,177.3	$199.4
Hazardous Substance Response - Support	TOTAL	$3,784.4	$4,975.3	$4,977.9	$5,177.3	$199.4
PERMANENT WORKYEARS						
Hazardous Substance Response - OW		15.7	24.0	23.3	24.0	.7
Hazardous Substance Response - OAR		16.9	20.5	19.4	20.5	1.1
TOTAL PERMANENT WORKYEARS		32.6	44.5	42.7	44.5	1.8
TOTAL WORKYEARS						
Hazardous Substance Response - OW		19.4	24.0	24.0	24.0	0.0
Hazardous Substance Response - OAR		18.4	20.5	20.5	20.5	0.0
TOTAL WORKYEARS		37.8	44.5	44.5	44.5	0.0

Hazardous Substance Response - Support

Budget Request

The Agency requests a total of $5,177,300 supported by 44.5 total workyears for 1991, an increase of $199,400. There is no increase in total workyears from 1990. All of the request will be for the Hazardous Substance Superfund appropriation.

HAZARDOUS SUBSTANCE RESPONSE - OFFICE OF WATER

1991 Program Request

In 1991, the Agency requests a total of $2,075,100 supported by 24.0 total workyears for this program, all of which will be for the Hazardous Substance Superfund appropriation. This represents an increase of $19,800 which reflects increased personnel and support costs.

In 1991, the Agency will sample up to seven additional Superfund sites and will analyze untreated wastewaters, pretreated wastewaters and pretreatment system sludges. Three sites will be selected for extended-term sampling. Data from the samples will supplement and expand existing data to characterize untreated Superfund site wastewaters, the performance of on-site pretreatment systems and the fate of pollutants in publicly owned treatment works (POTWs) receiving these wastewaters. Cooperative treatability studies with the Office of Research and Development (ORD) will continue to focus on additional pollutants and POTW design and operating characteristics not covered in previous studies. These data, together with an ORD treatability data base, will be used to update, refine and test the PC-based treatability model to be used by CERCLA site Regional Program Managers, POTW operators and pretreatment program personnel to predict the fate of pollutants in POTWs. An updated guidance manual will be published by the end of 1991 which also addresses Superfund site discharges directly to surface waters. The Agency will also continue to develop sediment criteria for metals and certain organic chemical pollutants, focusing on bioaccumulative pollutants believed to be the cause of significant risk to aquatic systems and to humans consuming contaminated fish flesh.

Regions will continue to analyze the need for new or revised local limits at those facilities identified as receiving CERCLA wastewaters. Approximately 30 such facilities will require efforts in this activity. Regions will continue to review remedial action alternatives to ensure that appropriate technology and water quality considerations have been addressed. Regions will continue to assess compliance where Superfund facilities have existing discharges to surface waters. Headquarters and Regions will continue to evaluate and revise as necessary NPDES permits and local limits in light of information received from the Toxic Release Inventory.

Regions will continue to provide case-by-case review of Superfund sites on the National Priority List (NPL). Documents will be reviewed to ensure that applicable, relevant and appropriate drinking water Maximum Contaminant Level

Goals (MCLGs) and/or Maximum Contaminant Levels (MCLs) are applied; for contaminants with no MCLG/MCL established, Regions will supply and interpret toxicological data. EPA will provide recommendations that consider both the technical and cost effectiveness of water supply treatment or the need to provide an alternate supply. Regions will be involved throughout the remedial process for sites with a contaminated water supply. This involvement includes reviewing Remedial Investigations (RIs) to examine data to characterize the releases; reviewing Feasibility Studies (FSs) which analyze clean-up alternatives; and documenting final clean-up decisions in the Record of Decision (ROD). For each site, this is a multi-year process.

The Regions, together with the states, will evaluate the effectiveness of drinking water remedial actions and will provide oversight of drinking water regulations to meet requirements under the Safe Drinking Water Act (SDWA).

1990 Program

In 1990, the Agency is allocating a total of $2,055,300 supported by 24.0 total workyears for this program, all of which is from the Hazardous Substance Superfund appropriation.

The Agency is continuing to analyze samples of untreated wastewaters, pretreated wastewaters and pretreatment systems from ten Superfund sites that discharge to POTWs; five additional sites are being sampled on an extended basis. Data from the samples supplement and expand existing data to characterize untreated Superfund site wastewaters, the performance of on-site pretreatment systems and the fate of pollutants in POTWs receiving these wastewaters. The program is continuing its treatability studies of on-site pretreatment systems. In conjunction with ORD, the program continues to update, refine and test the PC-based treatability model to be used by CERCLA site personnel, POTW operators and other pretreatment program personnel to predict the fate of pollutants in POTWs. This new data will be published in a final guidance manual in 1991.

Regions continue to review remedial action alternatives to ensure appropriate technology and water quality considerations have been addressed. Regions are continuing to assess compliance where Superfund facilities have existing discharges to surface waters.

The Regions continue to review response actions to ensure that applicable, relevant and appropriate drinking water standards are among the benchmarks applied. Where MCLG/MCLs have not been established for a particular contaminant, the Regions are providing assistance with toxicological data. Once a site with a contaminated water supply has been selected for inclusion on the NPL, the Regions participate in reviewing RI/FSs and in preparing RODs. These studies select and document the response actions for contaminated water supplies and address the need to provide water supply treatment or an alternate water supply.

The Regions, together with the states, are evaluating the effectiveness of drinking water remedial actions and are providing oversight of drinking water regulations to meet requirements under the SDWA.

1989 Accomplishments

In 1989, the Agency obligated a total of $1,757,900 supported by 19.4 total workyears for this program, all of which was from the Hazardous Substance Superfund appropriation.

During 1989, the Agency continued efforts to characterize wastewater from Superfund sites. The Compatibility Analysis begun in 1987 was updated, as three additional sites were sampled and analyzed to expand the data base on the treatment and characteristics of wastewater. In addition, analytical methods and Quality Assurance/Quality Control procedures were developed as necessary.

Regions continued to review disposal alternatives and coordinate and develop discharge controls for an expanded list of Superfund sites. Additionally, they participated in meetings to develop workplans for each NPL site. The need for new or revised local limits was analyzed at approximately 50 facilities identified as receiving CERCLA wastewaters. Regions reviewed remedial action alternatives to ensure that they address water quality considerations. Compliance with imposed discharge conditions was assessed at locations where Superfund facilities discharge into surface water.

The Regions reviewed response actions to ensure that applicable, relevant and appropriate drinking water standards were applied. They also participated in the review of RI/FSs and in the preparation of RODs which document the final cleanup actions of contaminated water supplies, particularly the need to provide alternate water supplies. Analytical information was provided for the feasibility study process which compared the cost-effectiveness of remedial alternatives.

The Regions, together with the states, evaluated the effectiveness of drinking water remedial actions and provided oversight of drinking water regulations to meet requirements under SDWA.

HAZARDOUS SUBSTANCE RESPONSE - OFFICE OF AIR AND RADIATION

1991 Program Request

The Agency requests a total of $3,102,200 supported by 20.5 total workyears. This represents an increase of $179,600 and no change in total workyears from 1990.

In 1991 the Agency will provide sample collection, analysis, and data interpretation for remediation, removal, and enforcement activities at Superfund sites on the National Priority List, at Federal facilities, and at weapons production sites. The Agency will also develop guidance and criteria and will review reports, survey plans, and assessments from radiation and mixed waste contaminated sites. The program will provide technical assistance to Regional Offices including the development of an on-site waste volume reduction treatability plant at Glen Ridge/Montclair, New Jersey to clean up contaminated soils. This on-site project will include development and location of equipment, processing of soils, quality control, sample analysis, data interpretation, and reports of the preliminary evaluation. EPA will evaluate other remediation technologies, including incineration, for radioactive and mixed waste.

In 1991 the program will also support Regional air program technical assistance for clean-up activities, including the use of air quality models to determine risks posed by air emissions from clean-up activities and the establishment of temporary air monitoring networks around selected sites. The Agency will evaluate potential disposal techniques and technology, and review remedial action plans prior to implementation.

1990 Program

In 1990 the Agency is allocating $2,922,600 supported by 20.5 workyears to provide sample collection, analysis, and data interpretation for remediation, removal, and enforcement activities at Superfund sites. The EPA radiation program will complete the Hazard Ranking System for radionuclides, the laboratory evaluation and pilot of the Volume Reduction Chemical Extraction (VORCE) project, and a draft Human Health Evaluation Manual. The Agency radiation staff is continuing to review reports, survey plans, and environmental assessments at radiation contaminated sites.

The Regional air program staff is continuing to review field studies of sites and contractor work plans and provide technical assistance through air quality modeling, monitoring, and case studies. The support includes use of air quality models to determine the risks posed by air emissions from clean-up and disposal techniques and technology to minimize the chances of migration of unhealthy levels of toxics to the air.

1989 Accomplishments

In 1989 the Agency obligated $2,026,500 supported by 18.4 total workyears. The Agency continued technical support to the Regions to minimize radiation and air toxics exposure at Superfund sites. The radiation program support included: radiation risk assessments, engineering evaluations, and cost assessments. The Agency monitored on-site laboratory equipment and conducted all environmental sampling and monitoring in support of the emergency removal action at the Radium Chemical Company site in Queens, New York and continued treatability studies, such as VORCE, to examine physical and chemical methods for reducing the volume and activity of soils contaminated with radioactive elements. The Regional air program staff provided air quality modeling and monitoring for site clean-up activities. The program continued to assure that site decisions involving air pollution and radiation contamination issues were consistent with national air and radiation program policies and regulations.

SUPERFUND
Hazardous Substance Response - Interagency

PROGRAM		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
Interagency Superfund Department of Health & Human Services (ATSDR)						
Hazardous Substance Superfund		$44,499.0	$45,779.6	$45,178.7	$44,500.0	-$678.7
	TOTAL	$44,499.0	$45,779.6	$45,178.7	$44,500.0	-$678.7
Interagency Superfund United States Coast Guard						
Hazardous Substance Superfund		$4,948.2	$4,871.5	$4,807.6	$4,948.2	$140.6
	TOTAL	$4,948.2	$4,871.5	$4,807.6	$4,948.2	$140.6
Interagency Superfund Department of Justice						
Hazardous Substance Superfund		$25,100.0	$18,902.4	$25,754.2	$32,324.0	$6,569.8
	TOTAL	$25,100.0	$18,902.4	$25,754.2	$32,324.0	$6,569.8
Interagency Superfund Federal Emergency Management Agency						
Hazardous Substance Superfund		$1,705.0	$1,850.5	$1,826.3	$1,879.6	$53.3
	TOTAL	$1,705.0	$1,850.5	$1,826.3	$1,879.6	$53.3
Interagency Superfund National Oceanographic & Atmospheric Administration						
Hazardous Substance Superfund		$2,250.5	$2,244.9	$2,215.6	$2,280.1	$64.5
	TOTAL	$2,250.5	$2,244.9	$2,215.6	$2,280.1	$64.5
Interagency Superfund Department of Interior						
Hazardous Substance Superfund		$1,111.0	$1,234.2	$1,218.1	$1,253.5	$35.4
	TOTAL	$1,111.0	$1,234.2	$1,218.1	$1,253.5	$35.4
Interagency Superfund FEMA-Relocation						
Hazardous Substance Superfund		$804.6		$17.0		-$17.0
	TOTAL	$804.6		$17.0		-$17.0
Interagency Superfund Occupational Safety & Health Administration						
Hazardous Substance Superfund		$407.9	$992.6	$979.6	$1,008.2	$28.6
	TOTAL	$407.9	$992.6	$979.6	$1,008.2	$28.6

SUPERFUND

Hazardous Substance Response - Interagency

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
Interagency Superfund Department of Health & Human Services (NIEHS)						
Hazardous Substance Superfund		$21,900.0	$36,736.9	$36,254.8	$21,915.0	-$14,339.8
	TOTAL	$21,900.0	$36,736.9	$36,254.8	$21,915.0	-$14,339.8
TOTAL:						
Hazardous Substance Superfund		$102,726.2	$112,612.6	$118,251.9	$110,108.6	-$8,143.3
Hazardous Substance Response - Interagency	TOTAL	$102,726.2	$112,612.6	$118,251.9	$110,108.6	-$8,143.3

SUPERFUND

Hazardous Substance Response - Interagency

Budget Request

The Agency requests a total of $110,108,600 for interagency activities under the Hazardous Substance Superfund appropriation in 1991, a decrease of $8,143,300 from 1990. The appropriation includes a $6,569,800 increase for the Department of Justice (DOJ) to carry out the increased number of cases stemming from the strengthened enforcement program. The request also contains small increases for the ongoing Superfund program activities of the United States Coast Guard (USCG), the National Oceanic and Atmospheric Administration (NOAA), the Department of the Interior (DOI), the Federal Emergency Management Agency (FEMA), and the Occupational Safety and Health Administration (OSHA). The decrease occurs in the Department of Health and Human Services National Institute of Environmental Health Sciences (NIEHS), and the Agency for Toxic Substances and Disease Registry (ATSDR) primarily due to a reduction in worker training grants. These agencies and offices request the necessary workyears within their own budget requests.

DEPARTMENT OF HEALTH AND HUMAN SERVICES (HHS)

1991 Program Request

The Agency requests a total of $66,415,000 ($44,500,000 for ATSDR and $21,915,000 for NIEHS) from the Hazardous Substance Superfund appropriation for this program. This request represents a decrease of $15,018,500 ($678,700 for ATSDR and $14,339,800 for NIEHS). The decrease returns ATSDR and NIEHS to their 1989 resource levels.

In 1991, ATSDR will continue to provide technical support and expertise as required under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, to protect public health and worker safety, and to determine the toxicological and human health impacts associated with hazardous substances. Emphasis will be placed on expanding state responsibilities and involvement, and implementing both the Registry program and the research program. ATSDR will produce and oversee the state production of approximately 375 Health Assessments for National Priorities List (NPL) sites and in response to citizen petitions, perform pilot health effects studies for approximately 20 sites expected to require such studies, and provide approximately 2,600 health consultations to states, local governments and to EPA.

In addition, ATSDR will maintain and enhance toxicology data bases for those 200 chemicals named as most likely to be found at Superfund sites, produce and peer review final versions of the fourth set of profiles, consisting of 40 documents and 40 substances, and prepare and peer review draft versions of the fifth set of profiles consisting of 40 documents and 40 substances. ATSDR will also provide health assistance support for emergency responses through an estimated 1,000 consultations. ATSDR will refine the National Exposure Registry data collection instrument and update the existing 10 subregistries. ATSDR will

also complete studies in six states which will allow characterization of prevalence and incidence of adverse reproductive outcomes from those states, and initiate four epidemiologic studies based on findings of pilot health studies. ATSDR will provide support and technical assistance to the health community by maintenance of automated directories and information systems such as TOXNET, and the Environmental Health Information Resources Directory.

In 1991, NIEHS will continue to: 1) provide basic research grants for the development of improved methods to detect hazardous substances in human tissues and environmental media; and 2) evaluate risks and health effects from hazardous substances, and for the treatment and attenuation of these effects. Research will be conducted at 11 universities by teams of biomedical, engineering, and physical scientists. In total, 85 studies will be completed. NIEHS will sponsor a national conference to summarize the findings of the basic research program for an audience of health and environmental agency staff, health care providers, industry officials, and concerned citizens. Graduate students and post-doctoral researchers assist in the basic research conducted at NIEHS supported universities.

NIEHS will continue to manage a grants program which provides training for workers and supervisors engaged in Superfund remediation efforts, activities that require the management and generation of hazardous wastes, environmental emergency response, and hazardous substance transport.

1990 Program

In 1990, the Agency is allocating a total of $81,433,500 ($45,178,700 for ATSDR and $36,254,800 for NIEHS) from the Hazardous Substance Superfund appropriation to this program.

In 1990, ATSDR will: 1)conduct health assessments at all sites proposed for the NPL; 2) conduct health studies at those sites when needed; 3) investigate complaints of illness or disease related to exposure to hazardous substances; 4) develop appropriate biological testing for exposed individuals; and 5) develop and maintain registries of exposed individuals, when needed. CERCLA requires ATSDR to perform a health assessment of a site on the NPL within one year from the date of its proposal on the NPL.

Additional and expanded activities mandated by the Superfund Amendments and Reauthorization Act (SARA) of 1986 for ATSDR are to: 1) develop a list of priority chemicals and produce toxicological profiles on those chemicals at the rate of 25 per year; 2) oversee an estimated 1,100 health assessments and health consultations for NPL sites, state non-NPL sites and in response to citizen petition; 3) develop a research program to help fill data gaps on toxicological profile chemicals, and ensure that all studies and research reports undergo peer review; 4) prepare and disseminate health education information; and 5) report to Congress on health-related activities. ATSDR continues to enhance and maintain toxicology data bases for chemicals generally found at Superfund sites or encountered in emergency situations. In addition, ATSDR provides health assistance support for emergency responses in the form of an estimated 1,000 health consultations. This is accomplished by expanding the state roles for routine concerns and/or on site consultations when necessary.

In 1990, NIEHS is substantially expanding both its basic research and training and worker safety training grants programs. In the area of research and training, grants are being made to two additional universities for a total of 11. Four scientific conferences will be held to ensure that the findings from the NIEHS research programs are available to EPA, industry, physicians and other health care providers, and to concerned citizens. The worker safety grants program is expanding. The program will solicit additional grants proposals from non-profit organizations with proven capacities to provide for non-professional workers whose duties involve the management or transportation of hazardous substances or who respond to environmental emergencies. These newly funded organizations will use the training materials developed by NIEHS's original 11 grantees. In addition, NIEHS will be conducting a thorough, on-site evaluation of the first 11 training grant programs initiated in 1987. These evaluations are designed to assure that: 1) the grantee organizations are providing a program of high quality instruction to workers targeted by the program; and 2) the training received is actually being used by workers such as laborers, emergency responders, hazardous materials transporters, and supervisors engaged in activities related to hazardous substance removal and containment.

1989 Accomplishments

In 1989, $66,399,000 was obligated from the Hazardous Substance Superfund appropriation by HHS ($44,499,000 for ATSDR and $21,900,000 for NIEHS).

In 1989, ATSDR completed 592 health assessments bringing the total completions to 1,154. ATSDR also completed two pilot studies/investigations on selected populations, initiated nine health studies and provided over 2,200 health consultations. In compliance with CERCLA, Section 104(i)(3), ATSDR is required to prepare toxicological profiles on the first 100 most hazardous substances found at Superfund sites. ATSDR completed 25 toxicological profiles during 1989. ATSDR conducted approximately 1,000 health consultations to private and public health care providers in the provision of medical care and testing of exposed individuals. ATSDR also completed a policy and procedures manual for the National Exposure Registry. The program initiated a Toxic Chemical Evaluation sub-registry comprised of eight sites with a population base of approximately 5,000 and established a dioxin sub-registry. ATSDR continued discussions with other agencies regarding toxicological profiles and health assessment research. ATSDR's health education activities during 1989 included the continuation of training for state and local health officials on the use of the TOXNET and other on-line systems operated by the National Library of Medicine. Additional activities included the development of environmental health case studies for use by the medical community, and education activities through the environmental and occupational health clinic network.

In 1989, nine universities received funding from NIEHS to conduct 78 separate basic research studies in a grants program designed to fulfill the requirements of a Superfund Basic Research and Professional Training Plan. The Plan was developed by NIEHS and approved by the HHS Advisory Council on Hazardous Substances Research and Training as required by Section 311(a) of SARA.

The worker safety training program became fully operational in 1989. Complete training programs were put in place by the 11 grantee organizations at centers across the United States. Technical advice and assistance was provided

during the emergency response to the Alaska oil spill. In addition, a clearinghouse was established by NIEHS for their grantees to assure communication and coordination of a nationwide training effort in Superfund worker training.

UNITED STATES COAST GUARD (USCG)

1991 Program Request

The Agency requests a total of $4,948,200 for the Hazardous Substance Superfund appropriation for the USCG. This request represents an increase of $140,600 over 1990 levels. The increase returns the USCG to its 1989 resource level.

In 1991, the USCG will continue to reduce the occurrence and effects of releases of hazardous substances by enforcing applicable sections of CERCLA, as amended. The USCG will: 1) issue and check Certificates of Financial Responsibility; 2) investigate spill reports; and 3) determine potentially responsible parties for penalty and liability assessment. Furthermore, the authorizing legislation for the Comprehensive Oil Spill Liability and Compensation Act (COSLCA) is expected to correct a limitation in CERCLA regarding the authority to issue certificates of financial responsibility. Consequently, COSCLA is expected to add a significant enforcement workload to the issuance and maintenance of records for CERCLA certificates of financial responsibility. In addition, the USCG will continue to minimize the effects of releases of hazardous substances, pollutants or contaminants into the coastal environment. The USCG will accomplish this by providing an adequately equipped and properly trained workforce to investigate releases and to monitor or supervise removal actions. The USCG will also ensure the effective management of the CERCLA program within its purview which will enhance the effectiveness of USCG policies and plans that are established and maintained to aid On-Scene Coordinators (OSC) in successfully dealing with CERCLA incidents. The USCG will also develop chemical response equipment necessary for safely responding to chemical releases and will provide state-of-the-art personal protection for response personnel.

1990 Program

In 1990, the Agency is allocating a total of $4,807,600 from the Hazardous Substance Superfund appropriation for this program.

The USCG will continue to provide a central point of contact for receiving reports of releases of hazardous substances and will notify the pre-designated Federal OSC and other appropriate governmental and/or private entities. The USCG provides assistance in the assessment of the hazards of released pollutants. It supports the Regional Response Team (RRT) and National Response Team (NRT) components of the national response mechanism. The USCG continues the medical monitoring system to minimize the possibility of any physical impairment or harmful effects to USCG enforcement or response personnel resulting from exposure to hazardous substances, pollutants, or contaminants. The USCG develops and maintains information systems for program management analysis and the necessary chemical assessment data systems (i.e. the Computer-Aided Management of Emergency Operations (CAMEO)) for proper response to hazardous substance incidents. USCG establishes policies, plans, and training that aid OSCs in successfully dealing with Superfund incidents.

1989 Accomplishments

In 1989, $4,948,200 was obligated from the Hazardous Substance Superfund appropriation for USCG. An intensive effort was focussed on addressing the Alaska oil spill and other incidents. These resources were also used to conduct response training for USCG personnel, upgrade the capabilities of the National Response Center (NRC), maintain safety equipment, and provide field data systems to support response programs and minimize the possibility of harm to personnel from exposure to hazardous substances. In addition, the USCG reprogrammed resources to assist in the modernization of the NRC Information Systems.

DEPARTMENT OF JUSTICE (DOJ)

1991 Program Request

The Agency requests a total of $32,324,000 for the Hazardous Substance Superfund appropriation. This request represents an increase of $6,569,800 for increased cost recovery referrals and for expanded enforcement against Section 104(e) information request and consent decree violations.

In 1991, the requested resources will support the expanded Superfund caseload and the operation of a system which provides automated data support for complex cases. DOJ will maintain its support to EPA in reviewing negotiated consent decrees, de minimis settlements, enforcement of information requests, and an expanded docket of access cases. In addition, DOJ will impose civil penalties in instances where PRPs violate notification requirements of CERCLA, as amended, deny access to sites, destroy records, violate financial responsibility regulations, or violate administrative and judicial settlement agreements. DOJ will pursue criminal cases and continue to provide support to EPA's expanded cost recovery efforts. DOJ will also defend the Agency against citizen suits, pre-enforcement review cases, reimbursement claims, and challenges to EPA administrative civil penalty decisions.

1990 Program

In 1990, the Agency is allocating a total of $25,754,200 from the Hazardous Substance Superfund appropriation for this program. DOJ is providing civil and criminal enforcement litigation which includes counseling on and enforcing administrative orders, giving warrants for entry, instituting suits to compel removal and remedial actions, and recovering response costs incurred by the Fund.

1989 Accomplishments

In 1989, $25,100,000 was obligated from the Hazardous Substance Superfund appropriation by DOJ. These resources were used for litigation and other enforcement related activities. Key accomplishments included the filing of 42 settlement/injunctive (CERCLA Section 106) cases and 51 cost recovery (CERCLA Section 107) cases. In addition to the cases filed, DOJ supported 61 Section 106 and 174 Section 107 on-going cases filed prior to 1989. DOJ also concluded 28 Section 106 cases and 18 Section 107 cases by consent decrees.

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

1991 Program Request

The Agency requests a total of $1,879,600 for the Hazardous Substance Superfund appropriation for FEMA. This request represents an increase of $36,300 over 1990. The increase returns FEMA to its 1989 resource level.

In 1991, FEMA will continue to support the Superfund program with the following activities. FEMA will conduct permanent and temporary relocation operations, provide general administrative support, and revise relocation manuals and regulations as required. FEMA will also support the management and coordination of training programs for local officials through the Emergency Management Institute and the National Fire Academy. These courses provide training to emergency response personnel and enable them to respond safely and expeditiously to hazardous materials incidents, preserve the environment, and protect public health and safety. Resources will be used to maintain local, state, and Federal emergency preparedness and administrative support. Resources will continue to fund the distribution of educational materials at state and local levels, and to support the training and team building necessary to enhance specialized response capabilities.

1990 Program

In 1990, the Agency is allocating a total of $1,843,300, of which $17,000 is supporting temporary and permanent relocations, from the Hazardous Substance Superfund appropriation.

In 1990, FEMA continues to provide technical assistance to state and local governments through improved coordination with the RRT for all preparedness activities, including contingency plan review, training support, planning support for four Regional workshops, and exercise evaluations. FEMA provides support to the NRT initiatives for information exchange.

1989 Accomplishments

In 1989, $2,509,600, of which $804,600 supported temporary and permanent relocations, was obligated from the Hazardous Substance Superfund by FEMA. These resources were used to: 1) support FEMA's development of relocations guidelines and regulations; 2) provide management oversight for temporary and permanent relocations; 3) provide preparedness guidance and technical assistance to state and local governments; 4) maintain the FEMA/Department of Transportation information exchange system; 5) enhance coordination of hazardous materials issues with the public and private sector; 6) provide continued support for NRT/RRT initiatives; and 7) support the FEMA/EPA instructor exchange program. FEMA also enhanced the knowledge, skill, and abilities standards for instructors and continued to deliver existing training systems at the state and local level.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)

1991 Program Request

The Agency requests a total of $2,280,100 for the Hazardous Substance Superfund appropriation for NOAA. This request represents an increase of $64,500 over 1990 levels. The increase returns NOAA to its 1989 resource level.

In 1991, these resources will allow NOAA to continue its efforts to support technical assistance to Federal OSC for releases of hazardous substances in coastal and marine areas. NOAA will continue to maintain the enhanced CAMEO program which combines meteorological and chemical-specific analytical data for the purposes of emergency response activities. In addition, NOAA will continue to provide technical support to EPA during removal actions and will evaluate the impact on natural resources from releases of hazardous substances. NOAA will act as technical liaison with EPA and other Federal, state, and local agencies on coastal resource issues of common interest.

1990 Program

In 1990, the Agency is allocating $2,215,600 from the Hazardous Substance Superfund appropriation for NOAA. In addition to its continuing responsibilities, NOAA provides technical support for activities associated with hazardous waste site removal and remedial actions affecting coastal and marine resources. NOAA will also provide policy support to the NRT/RRT and to state and local entities in the areas of: 1) contingency planning; 2) community relations; 3) communications; 4) preparedness evaluation; and 5) training. Additionally, NOAA will provide technical support for activities associated with hazardous waste site removal and remedial actions affecting coastal and marine resources.

1989 Accomplishments

In 1989, $2,250,500 was obligated from the Hazardous Substance Superfund appropriation by NOAA. These resources were used to support NOAA's ongoing operations including the purchase, development, and field testing of state-of-the-art sampling and analytical equipment necessary for safe and efficient response operations. Funds were also used to support the computer-based communication and information systems to provide identification of likely accident location, trajectory analysis of spilled hazardous materials, potential human and environmental impacts of accidents, and training for response personnel via spill simulation.

DEPARTMENT OF THE INTERIOR (DOI)

1991 Program Request

The Agency requests a total of $1,253,500 for the Hazardous Substance Superfund appropriation for DOI. This request represents an increase of $35,400 over 1990 levels. The increase returns DOI to its 1989 resource level.

DOI will continue to participate in NRT preparedness and training activities, provide coordination of its range of natural resources and other scientific and technical expertise with Headquarters personnel in agencies participating in the NRT, provide staff support functions to the administration of the National Response System, and provide direction and technical information to field units with respect to releases of hazardous substances, whether they occur at Superfund sites or as emergency incidents.

1990 Program

In 1990, the Agency is allocating a total of $1,218,100 from the Hazardous Substance Superfund appropriation for this program. DOI participates in RRT (nine DOI Regions covering thirteen standing RRT) preparedness and training activities, as well as administrative work group activities. DOI also provides guidance, technical assistance and training to states and local governments to ensure that proper consideration is given to natural resources and sensitive environments during response actions involving Superfund sites, and that DOI logistical support and expert technical advice is promptly available. In addition, DOI conducts training sessions and workshops, develops guidance, and provides consultation and technical assistance to develop and enhance state and Federal trustee officials' capacity to conduct natural resource damage assessments. These efforts result in effective claims for compensation of natural resource losses or injuries from releases of hazardous substances from Superfund sites or during emergency incidents.

1989 Accomplishments

In 1989, $1,111,000 was obligated from the Hazardous Substance Superfund appropriation by DOI. These resources enabled DOI to participate in NRT/RRT preparedness and training activities, continue its involvement in state and local emergency preparedness, and provide technical assistance to natural resources trustees. DOI provided support to the USCG in its response to the Alaska oil spill and other oil spills.

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

1991 Program Request

The Agency requests a total of $1,008,200 for the Hazardous Substance Superfund appropriation for OSHA. This request represents an increase of $28,600 over 1990 levels. The increase returns OSHA to its 1989 resource level.

In 1991, OSHA will conduct six compliance assistance visits to review site safety, health plans and programs. In response to requests for information regarding OSHA's Hazardous Waste Standard, OSHA will increase its correspondence and participation in conferences to explain the requirements of the Standard to requestors. OSHA will also provide technical assistance to EPA and other Federal agencies, and develop guidelines and procedures in the composition of manuals for assessing safety and health at hazardous waste sites.

OSHA will conduct approximately 50 audits and evaluations during 1991. OSHA also plans to support research concerning the effectiveness of personal protective equipment in shielding hazardous waste workers from the harmful

effects of exposure to toxic substances. OSHA will conduct inspections at approximately 30 hazardous waste sites, based upon referrals from EPA, or other hazardous situations identified for EPA. In addition, the 20 states and 2 Territories which operate OSHA approved safety and health programs will conduct 22 inspections.

1990 Program

In 1990, the Agency is allocating a total of $979,600 from the Hazardous Substance Superfund appropriation. OSHA continues to conduct safety and health inspections at Superfund sites and provide assistance at the sites to the NRT/RRT. The resources allow OSHA to support technical assistance at hazardous waste sites, worker safety inspections and enforcement at sites where Superfund remedial actions are underway, and assistance to the NRT/RRT in preparedness and training activities. Funds are also applied to support information sharing activities, assist in review and development of contingency plans, participate in simulation exercises, and assist in training activities. OSHA uses resources to develop required training standards for the certification of employees engaged in hazardous waste operations.

1989 Accomplishments

In 1989, $407,900 was obligated from the Hazardous Substance Superfund appropriation by OSHA. The funds were used to train OSHA inspectors, maintain a special inspection program for Superfund sites, provide technical assistance to EPA, provide support for the activities of the NRT/RRT, and enforce a required worker protection standard.

Enforcement

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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SUPERFUND
Hazardous Substance Response-Enforcement

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
PROGRAM						
Hazardous Substance Technical Enforcement						
Hazardous Substance Superfund		$128,118.8	$95,272.9	$127,030.0	$143,288.9	$16,258.9
	TOTAL	$128,118.8	$95,272.9	$127,030.0	$143,288.9	$16,258.9
Hazardous Substance Legal Enforcement						
Hazardous Substance Superfund		$13,776.4	$14,734.0	$23,511.3	$24,143.2	$631.9
	TOTAL	$13,776.4	$14,734.0	$23,511.3	$24,143.2	$631.9
Hazardous Substance - Criminal Investigations						
Hazardous Substance Superfund		$1,306.8	$1,568.5	$1,540.3	$1,572.4	$32.1
	TOTAL	$1,306.8	$1,568.5	$1,540.3	$1,572.4	$32.1
Hazardous Substance Technical Support - Office of Enforcement And Compliance Monitoring4						
Hazardous Substance Superfund		$7,842.7	$10,313.2	$11,670.3	$10,749.9	-$920.4
	TOTAL	$7,842.7	$10,313.2	$11,670.3	$10,749.9	-$920.4
TOTAL:						
Hazardous Substance Superfund		$151,044.7	$121,888.6	$163,751.9	$179,754.4	$16,002.5
Hazardous Substance Response-Enforcement	TOTAL	$151,044.7	$121,888.6	$163,751.9	$179,754.4	$16,002.5
PERMANENT WORKYEARS						
Hazardous Substance Technical Enforcement		623.4	931.4	923.0	961.4	38.4
Hazardous Substance Legal Enforcement		230.1	421.0	406.5	421.6	15.1
Hazardous Substance - Criminal Investigations		17.5	17.3	17.2	17.2	0.0
Hazardous Substance Technical Support - Office of Enforcement And Compliance Monitoring4		42.8	45.5	45.4	45.4	0.0
TOTAL PERMANENT WORKYEARS		913.8	1,415.2	1,392.1	1,445.6	53.5

SUPERFUND
Hazardous Substance Response-Enforcement

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
TOTAL WORKYEARS					
Hazardous Substance Technical Enforcement	669.7	931.4	961.4	961.4	0.0
Hazardous Substance Legal Enforcement	255.7	421.0	420.9	421.6	.7
Hazardous Substance - Criminal Investigations	17.6	17.3	17.2	17.2	0.0
Hazardous Substance Technical Support - Office of Enforcement And Compliance Monitoring4	44.6	45.5	45.4	45.4	0.0
TOTAL WORKYEARS	987.6	1,415.2	1,444.9	1,445.6	.7

Hazardous Substance Response - Enforcement

Budget Request

The Agency requests a total of $179,754,400 supported by 1,445.6 total workyears for 1991 for the Hazardous Substance Superfund appropriation for technical, administrative and legal enforcement activities. This is an increase of $16,002,500 and 0.7 total workyears from the level provided in 1990. The increase supports the "Enforcement-first" approach, recommended in the Administrator's Superfund Management Review, and enhanced efforts to achieve potentially responsible party (PRP) site remediation and recover Federal and state costs from responsible parties.

HAZARDOUS SUBSTANCE TECHNICAL ENFORCEMENT

1991 Program Request

The Agency requests a total of $143,288,900 and 961.4 total workyears for this program, all of which will be for the Hazardous Substance Superfund appropriation. This represents an increase of $16,258,900 and no total workyears to provide support for additional PRP remedial and removal response actions and additional cost recovery actions.

The Technical Enforcement effort in 1991 will continue to focus on using an array of available administrative and judicial enforcement tools to obtain PRP response actions, and on managing successful closure of PRP response and enforcement actions already underway. The Agency will stress the identification and pursuit of PRPs to support an increased percentage of work to be conducted by PRPs. PRPs not responding to requests for information will be subject to enforcement actions. The enforcement program will oversee PRP conduct of the study and remedy selection phase of the process. The program will select the remedy, announce the Record of Decision and negotiate Consent Decrees for the remedial design and remedial action phases. Compliance with these actions will be ensured by oversight. Enforcement actions for compliance will be taken, if necessary.

The Agency will encourage settlements with PRPs through the use of de minimis and mixed funding settlements. Where settlements are not achieved, EPA will issue Unilateral Administrative Orders (UAOs). In some cases, the Agency will pursue litigation for injunctive relief. EPA will also pursue non-settlers and follow with aggressive cost recovery actions when the Trust Fund is used for removal and remediation response actions. The Agency will pursue judicial and administrative cost recovery actions when a Fund-financed action has been undertaken, and EPA will seek treble damages when a PRP does not comply with a UAO. The program will place priority on large cases and cases constrained by statute of limitations. The Agency will initiate an increased number of judicial cost recovery actions in 1991. This strategy will result in the return of needed resources to the Trust Fund and, in the long term, increased compliance with Superfund enforcement actions.

Section 120 in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 requires interagency agreements for all Federal facility sites on the National Priority List (NPL). These agreements will cover the remedial investigation/feasibility study (RI/FS), remedy selection, remedy implementation and a five year review of the remedy. While the other Federal agency performs the RI/FS and initially selects the remedy, EPA must concur on the selected remedy. Thus early involvement with the other Federal agency is crucial for EPA to meet its statutory requirements.

1990 Program

In 1990, the Agency is allocating a total of $127,030,000 supported by 961.4 total workyears, all of which is from the Hazardous Substance Superfund appropriation, to secure and oversee responsible party response at NPL and other priority sites and to pursue cost recovery actions.

The Agency is significantly strengthening its enforcement program as a result of the Administrator's Superfund Management Review (SMR) conducted in 1989. Increased focus is being placed on finding PRPs early and exhausting all available enforcement tools to obtain their response before resorting to the use of the Trust Fund. Where PRPs fail to respond to information requests adequately, prompt enforcement follows. To encourage settlement, the Agency is pursuing de minimis and mixed funding settlements. Where negotiations fail to achieve settlement, the Agency is strengthening its efforts against non-settlers by issuing unilateral orders to achieve response or to establish treble damage claims for cost recovery.

The program is ensuring compliance by PRPs at sites where a settlement has been reached and work is underway. Strong oversight at this stage of the process will prevent unnecessary delays at the remedy selection phase. Where necessary, additional enforcement actions will be taken, assessing stipulated penalties or conducting alternative dispute resolution where the PRPs are out of compliance with the Administrative Order or Consent Decree.

Where Fund-financed action has been undertaken, the program is pursuing administrative or judicial cost recovery actions. Cost recovery actions will be pursued against non-settlers which will increase the cost of recalcitrance. Emphasis on the PRP searches will serve to strengthen enforcement action against recalcitrants.

Federal facility Interagency Agreements (IAGs) are expected to be in place for all facilities on the NPL. EPA must review and concur on the selection of remedy at Federal facilities, as well as facilitate public participation and state involvement in the process.

1989 Accomplishments

In 1989, the Agency obligated a total of $128,118,800 supported by 669.7 total workyears, all of which was from the Hazardous Substance Superfund appropriation.

PRPs conducted more than half the RI/FS and 60 percent of the Remedial Actions initiated in 1989. The program also concluded Remedial Design/Remedial Action (RD/RA) negotiations at NPL sites and referred cases to the Department

of Justice for entering in the court. UAOs were issued, and in many cases, resulted in compliance. Settlements for RD/RA were the largest in any year. Agreements and orders in compliance at 71 sites resulted in remedial work valued at nearly $800 million. For the entire program, the value of enforcement PRP response was over $1 billion.

Standard interagency protocols have been negotiated with the Department of Defense and Department of Energy for response by these agencies at facilities owned or operated by them. Resolution of these protocols was critical for the completion of site specific IAGs which have been achieved at nearly half of the Federal facilities on the NPL.

HAZARDOUS SUBSTANCE LEGAL ENFORCEMENT

1991 Program Request

The Agency requests a total of $24,143,200 supported by 421.6 total workyears for this program, all of which will be for the Hazardous Substance Superfund appropriation. This represents an increase of $631,900 and 0.7 total workyears from 1990. The increase will fund additional personnel and support costs.

Federal Superfund legal enforcement work will continue in two major areas: (1) actions to secure privately-financed site cleanups, and (2) "cost recovery" actions to recoup Hazardous Substance Trust Fund resources expended in Fund-financed cleanups. The stepped-up enforcement effort or "enforcement first" concept, begun in 1989 and based upon the recommendations of the Agency's Superfund Management Review (SMR) will continue in 1991. This emphasis has forced companies and other polluters to carry out more hazardous waste site cleanups. In 1991, continued aggressive administrative and judicial enforcement actions will be pursued to secure privately-financed cleanups. These actions will allow the Agency to focus Fund resources on abandoned sites or sites with insolvent responsible parties where direct use of the Fund presents the only available response option. "Cost recovery" actions, which return monies to the Trust Fund and permit the Agency to address a larger number of sites, will emphasize actions where the statute of limitations creates a deadline for settlement. However, in all cases where Federal money must be used to remove an immediate public-health threat, the Agency will promptly pursue responsible parties to get reimbursement for Federal costs.

Headquarters activity will focus on the following areas: refinement of the strategy for use of de minimis, mixed funding, and non-binding preliminary allocation of responsibility (NBAR) settlement authorities; improved use of Alternative Dispute Resolution in Superfund settlements; implementation of a "unified" timeline for Superfund sites to establish timetables for negotiating settlements of Superfund claims; model/sample forms for certain kinds of Superfund settlements, complaints, or orders; and Section 106 penalty settlement policy and Section 107 treble damage settlement policy.

Program oversight will take on greater emphasis in 1991 as the Agency seeks to ensure that policy initiatives resulting from the SMR are achieved. New management systems being developed in 1990 to track new or refined indicators of Superfund enforcement accomplishments will be monitored and evaluated to

ensure that key information necessary to formulate policy objectives is available. Headquarters will conduct Regional reviews to focus on attainment of revised policy objectives and the quality and quantity of Regional enforcement work.

Headquarters will focus most of its litigation management work on areas specified for greater use such as use of unilateral judicial enforcement, enforcement against non-settlers, enforcement against information request non-respondents, and treble damage and civil penalty claims. Headquarters capacity building activity will focus on training. The Superfund training program initiated in 1990 will continue to receive major emphasis because of the complexity of Superfund cases and the high turnover rate of attorneys in this area.

Negotiated settlements will remain the Agency's primary goal in most instances, and will necessitate early involvement of legal resources in the enforcement process. The requirement for active state participation will promote close cooperation and coordination between legal enforcement staff and state officials. Section 106 referrals with settlement will continue to receive major emphasis. Remedial negotiations with unilateral orders will provide both an incentive to come to an agreement and a basis for treble damages should negotiations fail and the order not be complied with. The emphasis of the SMR on negotiation with (and unilateral enforcement against) Potentially Responsible Parties (PRPs) for private party cleanup will continue to have a significant impact on the nature and timing of Regional legal enforcement involvement in response to the identification of hazardous waste sites. The statutory mandate for public participation and the use of several Superfund Amendments and Reauthorization Act (SARA) enforcement remedies will continue to influence Regional legal enforcement workload.

Regional legal enforcement in 1991 will be characterized by complicated and labor-intensive Section 106 negotiations for remedy cases, legal support for issuance and follow up of unilateral Section 106 administrative orders, as well as Section 107 cost recovery cases. Legal actions against PRPs will be aggressively pursued for maximum impact and to encourage recalcitrant PRPs to enter into negotiations.

In 1991, this program also incorporates Superfund resources in the Office Federal Activities which support Federal agencies and the Regions with a Superfund Federal facilities program. The Office of Federal Activities provides a information-exchange function in support of the Superfund program federal facilities activities. The focus of the Federal Facilities Program in 1991 includes the issuance of policy to ensure that Federal agencies meet their Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) responsibilities described in Section 120 of the statute. Further, the office will develop and conduct training workshops and conferences focusing on application of the Superfund process at Federal facilities.

1990 Program

In 1990, the Agency is allocating a total of $23,510,400 supported by 420.9 total workyears for this program, all of which is from the Hazardous Substance Superfund appropriation.

The recommendations of the Superfund Management Review established a vigorous agenda for enforcement activity which influenced not only 1989, but redirected Headquarters and Regional legal enforcement in 1990 and beyond. Implementation of the SMR has increased attention in Headquarters on a number of activities. To support Regionally identified cases, Headquarters will deploy troubleshooters with national expertise to provide targeted, hands on supplementary support for key cases. Headquarters staff will also aid completion and active management of information systems developed to track Agency implementation of priority matters. Headquarters legal resources will develop or participate in issuing guidance on administrative orders, models for remedial investigations/feasibility studies (RI/FSs) and remedial design/remedial actions (RD/RAs) activities, NCP implementation, state role, penalty policy, contractor management issues, and Fund/enforcement integration. Headquarters will initiate a system for monitoring private party litigation to track precedent-setting rulings that may impact the Agency's authorities and may warrant Agency participation through court action or as an amicus.

Considerable emphasis will be placed on implementing an Alternative Dispute Resolution component of the cost recovery program. Improvements to management systems begun in prior years to build capacity at Headquarters as well as in the Regions will also continue. These include: updating and training on a personal computer local area network which has increased productivity of headquarters attorneys and has facilitated information flow on complex cases; increased support for the Enforcement Document Retrieval System, which uses a sophisticated search capability to provide personal computer access to policies and precedents affecting cases ; improved coordination with Justice and the program office on tracking enforcement actions, development on penalty models for Superfund similar to those so successful used in air and water enforcement actions; and improvements to docket operations and maintenance.

In the Regions, legal work continues on a number of major Section 106 cases which are expected to reach successful resolution. (e.g. Horse Arenas, Hooker Chemical, Harvey and Knotts, Ottati and Goss, New Bedford Harbor, Cannons Engineering, and Western Processing) Intense legal involvement early in enforcement actions has improved the Agency's negotiating position and led to achievement of stronger settlements in 1989 -- a trend expected to continue in 1990. The upsurge in administrative enforcement as an effective tool in encouraging private party cleanup is expected to continue in 1990. In addition, judicial actions will be pursued where administrative enforcement tools do not succeed in securing response action, where remedial settlements need to be documented, and where costs associated with Fund-financed site cleanup need to be recovered.

Continued efforts are being made to improve and speed the litigation process for cost recovery cases already filed. For example, prosecutors of Section 107 cases will soon have the benefit of a Headquarters-developed computer program for calculation of interest payable by defendants in cost recovery proceedings. Regional legal resources are also heavily involved in significant Federal facility negotiations intended to result in Interagency Agreements for cleanup of federally owned sites. These actions are building on a number of precedent setting Federal facility actions taken in 1989 at Rocky Mountain Arsenal, Rocky Flats, and the Aberdeen Proving Ground.

In 1990, as a result of an Agency reorganization, resources for the Superfund Federal Facilities program of the Office of Federal Activities are provided here. In 1990, the Federal Facilities program will continue to use existing, as well as develop new communication vehicles to exchange information on Section 120 Interagency Agreements, Subpart K to the NCP on Federal Facilities, the Federal Agency Hazardous Waste Compliance Docket and Superfund activities and guidance pertinent to Federal facilities. Dissemination of Superfund materials will continue through the Federal Agency Environmental roundtable. The program will continue to work closely with the Regions to expand EPA's technical assistance/training role with regard to the Superfund process, concentrating on RI/FSs, PA/SIs, and emergency removals.

1989 Accomplishments

In 1989, the Agency obligated $14,123,600 supported by 255.6 total workyears for this program, all of which was from the Hazardous Substance Superfund appropriation.

The direction, scope, and accomplishments of the 1989 legal enforcement program were strongly influenced by the Agency's Superfund Management Review, which delineated an aggressive, "enforcement-first" policy for obtaining site cleanup by potentially responsible parties (PRPs). The 1989 implementation of the recommendations in this review lays the groundwork for charting the future course of Superfund enforcement, and strongly influences legal enforcement activities planned for 1990 and 1991.

Program accomplishments in 1989 reflected the emphasis placed on enforcement. The Agency dramatically increased the level of Superfund judicial enforcement activity in 1989 with 153 civil cases referred to the Department of Justice primarily seeking injunctive relief for hazardous waste cleanup by responsible parties, recovery from responsible parties of public money spent for site cleanup, or site access to perform investigation or cleanup work. Significantly more actions were successfully taken to obtain greater commitment by private parties to undertake hazardous waste site cleanup. For example, PRPs for the first time began more than half of the long-term "remedial actions" begun during the year. PRPs entered settlements for long-term cleanup at 48 sites for a total estimated value of $594 million (compared to a combined 1987 and 1988 total of 39 sites for $391 million). Similarly, the Agency used Remedial Unilateral Administrative Orders to order remedial work at 22 sites for $139 million, compared to a combined 1987 and 1988 total of 18 sites and $15 million. In an effort to address older cost recovery claims, the Agency referred cost recovery claims for 78 sites to the Department of Justice for prosecution, up from 56 referrals in 1988. Past costs sought by these recovery cases were valued at $136 million. In total, referrals to the Department of Justice were greater than the 1988 level by 34 percent. The strong performance is attributed to the Agency's response to internal management changes directed by the Agency's Administrator, and the shift to an enforcement-first approach to Superfund cleanups.

In addition to providing significant support to negotiations and trial preparation for major, complex Superfund cases, Headquarters staff completed most of the remaining guidance necessary for implementing new authorities provided in the SARA Amendments of 1986, including: procedures for employing new administrative penalty authorities; new arbitration procedures; guidance

for bringing actions for injunctive relief under CERCLA/SARA; a model litigation report for Superfund enforcement cases; and guidance on landowner liability under CERCLA/SARA.

Both Headquarters and Regional legal resources were devoted to substantial up-front negotiations and preparation of referrals necessary to complete the significant accomplishments cited above. Work also continued on a number of landmark CERCLA cases. Enforcement attorneys extensively used cost-effective administrative orders to compel PRP actions at sites. (Administrative authority which allows penalty assessment provides a more timely and less staff-intensive enforcement tool.) A total of 182 settlements for responsible party cleanup, valued at $962 million, was reached in 1989.

In 1989, the Office of Federal Activities supported the Regions with a technical assistance program featuring training on key aspects of Superfund such as environmental review procedures; Subpart K of the NCP on Federal facilities; and the negotiations process for Federal facility agreements. This office played a critical role in ensuring that Federal agency staff obtain up-to-date guidance and policy information to ensure that they met their responsibilities outline in the statute and Executive Order 12580.

HAZARDOUS SUBSTANCE CRIMINAL INVESTIGATIONS PROGRAM

1991 Program Request

The Agency requests a total of $1,572,400 supported by 17.2 total workyears for this program, all of which will be for the Hazardous Substance Superfund appropriation. This represents an increase of $32,100 and no change in workyears from 1990. The dollar increase will provide for increased personnel and support costs.

Criminal referrals and indictments continue to grow due to changes in statutory authority and to the substantial increase in sites on the National Priority List. Criminal sanctions under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and Superfund Amendments and Reauthorization Act (SARA) have changed from misdemeanors to felonies (punishable by a maximum of 3 years imprisonment, 5 years for second and subsequent convictions) for failure to report releases of hazardous substances, for destruction of records, and for submitting false information in a clean up.

Greater support from U.S. Attorneys (because of the felony sanctions) has also enhanced the number of investigations opened. CERCLA cases have increased over 50 percent because of the enhancement of criminal provisions in the Act. It is expected that the number of these investigations will continue to grow. In 1989, of the over 189 active investigations, approximately 85 are Resource Conservation and Recovery Act (RCRA)/CERCLA violations, representing approximately 48 percent of an agent's caseload and manpower commitments.

1990 Program

In 1990, the Agency is allocating a total of $1,540,300 supported by 17.2 total workyears for this program, all of which is from the Hazardous Substance Superfund appropriation.

This program has as its basic goal the initiation and conduct of criminal investigations under CERCLA. The Criminal Investigations Program takes the lead in prosecuting criminal cases of national significance with precedent-setting potential. The program also implements training programs for Agency personnel in CERCLA criminal case investigations.

RCRA counts are often combined with CERCLA counts in criminal cases. Often the Agency initiates investigations at apparently abandoned sites which may require Superfund for clean up, but the eventual result is that the referral contains RCRA counts which take precedence. Because of these situations, the Agency's record-keeping systems sometimes disguise the amount of time spent on CERCLA-related cases. These types of cases require the preponderance of our field agents' time, accounting for approximately 50 percent of current agent caseload.

1989 Accomplishments

In 1989, the Agency obligated a total of $1,306,800 supported by 17.6 total workyears for this program, all of which is was from the Hazardous Substance Superfund appropriation.

In 1989, a record number of CERCLA investigations were opened. The Donohoo case in the Atlanta Area Office was the first felony conviction recorded under the National Emissions Standards for Hazardous Air Pollutants (NESHAPS)/CERCLA in the United States. This trend is expected to continue and many CERCLA investigations are, in fact, combined with RCRA investigations by our field agents and prosecuting attorneys. Past case investigations show that Office of Criminal Investigations field agents are spending considerable time on RCRA cases and related CERCLA/SARA offenses. In 1987 there were 68 new cases, in 1988 there were 97 new cases, and in 1989 there were 120 new cases.

HAZARDOUS SUBSTANCE - TECHNICAL SUPPORT

1991 Program Request

The Agency requests a total of $10,749,900 supported by 45.4 total workyears for this program, all of which will be for the Hazardous Substance Superfund appropriation. This represents a decrease of $920,400 and no change in total workyears from 1990. The decrease in dollars is due primarily to a reduced level of required contract support.

The National Enforcement Investigations Center (NEIC) will provide necessary technical support to the increasing number of Superfund civil and criminal cases. NEIC will conduct multi-media investigations at Federal facilities or Government-Owned Contractor Operated (GOCO) facilities, which will include an evaluation of past on-site hazardous waste disposal practices. This information will be used to determine site-cleanup priorities and develop model evaluation procedures and remedial programs applicable at other Federal or GOCO facilities.

The NEIC function of developing procedures and protocols for preparing novel enforcement cases and supporting evidence will be expanded to provide Regional offices with advice and assistance on Section 106 Orders and subsequent

potential judicial actions, technical assistance, and information integration support in cost recovery actions. These activities will support the recommendations in EPA's Superfund Management Review.

1990 Program

In 1990, the Agency is allocating a total of $11,667,300 supported by 45.4 total workyears for this program, all of which is from the Hazardous Substance Superfund appropriation.

In 1990, NEIC's activities include providing technical consultation and assistance in site evaluations and case preparations through:

a) extensive background information review and data and analysis;

b) field investigations, information retrieval and evaluations;

c) laboratory analysis;

d) report preparation;

e) supplemental technical information development;

f) fully defensible evidence and work products meeting all chain-of-custody and document control requirements;

g) expert technical testimony; and

h) support during Superfund cost recovery activities against responsible parties.

NEIC will continue to support evidence audit and computerized files development for numerous sites and provides training, placement and oversight of contractor evidence audit personnel in each Region. Extensive technical assistance to EPA and states on laboratory analytical procedures; preparation and handling of high hazard samples; disposal of hazardous laboratory waste; sample shipping procedures; training of EPA and state inspectors on site investigations and safety procedures; and in-depth studies of chemical hazards to laboratory and field personnel engaged in hazardous waste investigations will also continue.

1989 Accomplishments

In 1989 the Agency obligated a total of $7,842,700 supported by 44.6 total workyears, all of which was from the Hazardous Substance Superfund appropriation.

In 1989, as in previous years, NEIC provided financial assessments from the Superfund Financial Assessment System (SFFAS) to enable enforcement attorneys to estimate a responsible party's ability to pay clean-up costs at Superfund sites. This system was used in dealing with responsible parties, including non-settlers in the Resolve case in Region 1 and the Operating Industries case in Region 9. In addition, potentially responsible party (PRP) information from databases developed by the NEIC was provided as part of a networking effort to

allow Regional attorneys to share litigation strategies when PRP's are identified across Regions. Especially noteworthy accomplishments are:

a) characterization of hazardous waste ("fingerprinting");

b) inclusion of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) requirements in investigating compliance at major Federal facilities;

c) widespread Regional use of the contractor evidence audit litigation support program; and

d) computerized information systems searches of PRP's.

Management and Support

SECTION TAB

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SUPERFUND

SUPERFUND
Management and Support

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
			(DOLLARS IN THOUSANDS)			
PROGRAM						
Hazardous Substance Financial Management - Headquarters						
Hazardous Substance Superfund		$8,228.8	$8,957.4	$8,991.1	$9,756.9	$765.8
	TOTAL	$8,228.8	$8,957.4	$8,991.1	$9,756.9	$765.8
Hazardous Substance Financial Management Regions						
Hazardous Substance Superfund		$3,654.7	$5,749.9	$5,715.4	$6,693.7	$978.3
	TOTAL	$3,654.7	$5,749.9	$5,715.4	$6,693.7	$978.3
Hazardous Substance Administrative Management - Headquarters						
Hazardous Substance Superfund		$10,093.5	$3,859.6	$3,851.7	$3,903.0	$51.3
	TOTAL	$10,093.5	$3,859.6	$3,851.7	$3,903.0	$51.3
Hazardous Substance Administrative Management - Regions						
Hazardous Substance Superfund		$4,767.9	$2,491.0	$3,455.0	$3,812.9	$357.9
	TOTAL	$4,767.9	$2,491.0	$3,455.0	$3,812.9	$357.9
Hazardous Substance - Contracts and Grants - Headquarters						
Hazardous Substance Superfund			$9,692.3	$10,258.6	$11,027.1	$768.5
	TOTAL		$9,692.3	$10,258.6	$11,027.1	$768.5
Hazardous Substance - Contracts and Grants - Regions						
Hazardous Substance Superfund			$1,821.1	$2,639.3	$2,908.8	$269.5
	TOTAL		$1,821.1	$2,639.3	$2,908.8	$269.5
Hazardous Substance Support Services - Headquarters						
Office of Inspector General					$788.0	$788.0
Hazardous Substance Superfund		$30,741.4	$32,484.0	$35,655.9	$39,212.9	$3,557.0
	TOTAL	$30,741.4	$32,484.0	$35,655.9	$40,000.9	$4,345.0

SUPERFUND
Management and Support

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
Hazardous Substance Support Services - Regions						
Hazardous Substance Superfund		$18,722.4	$14,732.8	$14,360.9	$17,337.9	$2,977.0
	TOTAL	$18,722.4	$14,732.8	$14,360.9	$17,337.9	$2,977.0
Hazardous Substance Computer Services						
Hazardous Substance Superfund		$9,247.8	$10,120.6	$9,987.9	$11,699.8	$1,711.9
	TOTAL	$9,247.8	$10,120.6	$9,987.9	$11,699.8	$1,711.9
Hazardous Substance Legal Services - Headquarters						
Hazardous Substance Superfund		$792.7	$804.2	$794.3	$910.3	$116.0
	TOTAL	$792.7	$804.2	$794.3	$910.3	$116.0
Hazardous Substance Legal Services - Regions						
Hazardous Substance Superfund		$1,077.6	$1,145.3	$1,110.2	$1,173.0	$62.8
	TOTAL	$1,077.6	$1,145.3	$1,110.2	$1,173.0	$62.8
Hazardous Substance Office of the Inspector General						
Office of Inspector General		$6,612.3	$10,156.9	$10,057.9	$12,318.4	$2,260.5
	TOTAL	$6,612.3	$10,156.9	$10,057.9	$12,318.4	$2,260.5
Hazardous Substance Office of Policy, Planning And Evaluation						
Hazardous Substance Superfund		$3,332.8	$3,237.0	$3,211.0	$3,449.6	$238.6
	TOTAL	$3,332.8	$3,237.0	$3,211.0	$3,449.6	$238.6
Hazardous Substance Office of the Comptroller						
Hazardous Substance Superfund		$607.0	$1,003.7	$990.9	$1,481.0	$490.1
	TOTAL	$607.0	$1,003.7	$990.9	$1,481.0	$490.1
Hazardous Substance - Executive Offices						
Hazardous Substance Superfund		$409.4	$790.1	$1,300.6	$1,022.6	-$278.0
	TOTAL	$409.4	$790.1	$1,300.6	$1,022.6	-$278.0

SUPERFUND
Management and Support

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
Hazardous Substance ORD Management & Support Development - Lab Support					
Hazardous Substance Superfund	$220.2	$443.2	$532.6	$714.1	$181.5
TOTAL	$220.2	$443.2	$532.6	$714.1	$181.5
TOTAL:					
Office of Inspector General	$6,612.3	$10,156.9	$10,057.9	$13,106.4	$3,048.5
Hazardous Substance Superfund	$91,896.2	$97,332.2	$102,855.4	$115,103.6	$12,248.2
Management and Support TOTAL	$98,508.5	$107,489.1	$112,913.3	$128,210.0	$15,296.7
PERMANENT WORKYEARS					
Hazardous Substance Financial Management - Headquarters	53.4	56.9	56.9	56.9	0.0
Hazardous Substance Financial Management Regions	81.4	100.9	97.6	100.9	3.3
Hazardous Substance Administrative Management - Headquarters	148.4	61.2	52.6	52.6	0.0
Hazardous Substance Administrative Management - Regions	103.7	68.8	65.3	68.8	3.5
Hazardous Substance - Contracts and Grants - Headquarters		131.6	139.2	139.2	0.0
Hazardous Substance - Contracts and Grants - Regions		57.0	53.8	57.0	3.2
Hazardous Substance Legal Services - Headquarters	10.0	12.0	12.0	12.0	0.0
Hazardous Substance Legal Services - Regions	24.6	25.9	24.6	25.9	1.3
Hazardous Substance Office of the Inspector General	53.2	67.8	67.8	84.8	17.0

SUPERFUND
Management and Support

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
			(DOLLARS IN THOUSANDS)		
Hazardous Substance Office of Policy, Planning And Evaluation	11.1	12.8	12.1	13.1	1.0
Hazardous Substance Office of the Comptroller	9.3	13.9	13.9	13.9	0.0
Hazardous Substance - Executive Offices	1.0	2.5	11.3	11.4	.1
Hazardous Substance ORD Management & Support Development - Lab Support			1.8	1.8	0.0
TOTAL PERMANENT WORKYEARS	496.1	611.3	608.9	638.3	29.4
TOTAL WORKYEARS					
Hazardous Substance Financial Management - Headquarters	53.9	56.9	56.9	56.9	0.0
Hazardous Substance Financial Management Regions	86.5	100.9	100.9	100.9	0.0
Hazardous Substance Administrative Management - Headquarters	152.7	61.2	52.6	52.6	0.0
Hazardous Substance Administrative Management - Regions	114.9	68.8	68.8	68.8	0.0
Hazardous Substance - Contracts and Grants - Headquarters		131.6	139.2	139.2	0.0
Hazardous Substance - Contracts and Grants - Regions		57.0	57.0	57.0	0.0
Hazardous Substance Legal Services - Headquarters	10.3	12.0	12.0	12.0	0.0
Hazardous Substance Legal Services - Regions	27.2	25.9	25.8	25.9	.1

SUPERFUND
Management and Support

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
Hazardous Substance Office of the Inspector General	53.4	67.8	67.8	84.8	17.0
Hazardous Substance Office of Policy, Planning And Evaluation	11.5	12.8	13.1	13.1	0.0
Hazardous Substance Office of the Comptroller	9.5	13.9	13.9	13.9	0.0
Hazardous Substance - Executive Offices	1.1	2.5	11.3	11.4	.1
Hazardous Substance ORD Management & Support Development - Lab Support			1.8	1.8	0.0
TOTAL WORKYEARS	521.0	611.3	621.1	638.3	17.2

Management and Support

Budget Request

The Agency requests a total of $128,210,000 supported by 638.3 total workyears in 1991 all of which will be used for the Hazardous Substance Superfund appropriation. This represents an increase of $15,296,700 and 17.2 total workyears from 1990.

HAZARDOUS SUBSTANCE FINANCIAL MANAGEMENT - HEADQUARTERS

1991 Program Request

The Agency requests a total of $9,756,900 supported by 56.9 total workyears for this program, all of which will be for the Hazardous Substance Superfund appropriation. This represents an increase of $765,800 and no increase in total workyears from 1990. This will provide for the implementation and maintenance of an automated nationwide document storage and retrieval system and an increased cost recovery program.

The program will continue to provide the level of Headquarters financial management support necessary to ensure the financial integrity of Superfund site-specific cost accounting data. This encompasses the review and reconciliation of Headquarters site-specific documents as they are being processed to assure that the information is accurate as well as to assure that it is entered into the Integrated Financial Management System accurately. It also includes monitoring of Headquarters costs charged to site-specific accounts by EPA employees, other Federal agencies, state and local governments, and commercial entities to ensure that amounts are properly documented and within budget. The program will also calculate and apply indirect cost rates to assure that full Agency costs are charged to sites and claimed in cost recovery actions. In addition, the program will provide for basic financial services including payroll support, invoice and voucher processing, reports preparation, and funds control for Headquarters.

1990 Program

In 1990, the Agency is allocating a total of $8,991,100 supported by 56.9 total workyears for this program, all of which is from the Hazardous Substance Superfund appropriation. These resources provide for basic financial services and the purchase of an automated document collection and retrieval system that is necessary to maintain pace with the increased requests for cost documentation. These resources also provide for the establishment of current cost documentation files in Headquarters so that costs claimed in cost recovery litigation can be supported immediately. This is particularly important in bankruptcy cases where time is of the essence. In the past, an extensive manual file search has been necessary to gather documents that support costs being claimed. In addition, these resources provide for an enhanced level of review and reconciliation to ensure the integrity of Headquarters charges posed against site-specific accounts in the Integrated Financial Management System.

1989 Accomplishments

In 1989, the Agency obligated a total of $8,228,800 supported by 53.9 total workyears for this program, all of which was from the Hazardous Substance Superfund appropriation. These resources provided for site-specific accounting support and preparation of cost recovery documentation. Also provided were basic financial services for the Superfund program such as payroll and invoice processing.

HAZARDOUS SUBSTANCE FINANCIAL MANAGEMENT - REGIONS

1991 Program Request

The Agency requests a total of $6,693,700 supported by 100.9 total workyears for this program, all of which will be for the Hazardous Substance Superfund appropriation. This represents an increase of $978,300 and no change in total workyears from 1990. This will provide for the collection and verification of regional cost documentation and the reconciliation of these documents with the Integrated Financial Management System on a current basis. This will be done by establishing a cost documentation file in each Region as costs are incurred rather than gathering documentation at a later date. This will allow us to respond immediately with documentation for bankruptcy cases where time is of the essence as well as assure that all documents needed for protracted negotiation or litigation are available when requested. Also included are resources necessary to provide basic financial services to the Regional Superfund program for payroll and voucher processing, funds control and reporting for management and program purposes.

1990 Program

In 1990, the Agency is allocating a total of $5,715,400 supported by 100.9 total workyears for this program, all of which is from the Hazardous Substance Superfund appropriation. These resources support the enhanced Regional Superfund financial activities, specifically the cost documentation file.

1989 Accomplishments

In 1989, the Agency obligated a total of $3,654,700 supported by 86.5 total workyears for this program, all of which was from the Hazardous Substance Superfund appropriation. With these resources, the Regional financial management offices provided site-specific accounting support and gathered regional cost documentation as requested by Regional counsel when cases entered the negotiation or litigation phases. Also provided were basic financial services for the Regional Superfund program, such as payroll and invoice processing and reporting.

HAZARDOUS SUBSTANCE ADMINISTRATIVE MANAGEMENT - HEADQUARTERS

1991 Program Request

The Agency requests a total of $3,903,000 supported by 52.6 total workyears for this program, all of which will be for the Hazardous Substance Superfund appropriation. This represents an increase of $51,300 and no workyears from

1990. We will continue to effectively manage automated systems, provide recruitment, staffing, and classification activities and provide sufficient facilities management to support the overall Superfund program. We will develop health and safety training courses, implement specialized medical monitoring programs, and verify through technical support and environmental audits that Superfund waste handled by EPA Laboratories is disposed in accordance with the off-site disposal requirements of the statute.

1990 Program

In 1990, the Agency is allocating a total of $3,851,700 supported by 52.6 total workyears for this program, all of which is from the Hazardous Substance Response Superfund appropriation. These resources enable the program to provide centralized administrative and management services to Superfund activities. We will provide for the intense and specialized training needs of Superfund employees, and provide management and organizational analysis to strengthen Superfund management processes. These resources will provide technical support, guidance, training, and oversight to ensure that Superfund waste from EPA labs is properly managed. We also plan to create a database on protective clothing to enhance the health and safety of our employees. Resources are used to revise or develop information systems including systems to track hazardous substance release at Federal Facilities, and the administrative/financial systems used to manage the Superfund Program.

1989 Accomplishments

In 1989, the Agency obligated a total of $10,093,500 supported by 152.7 total workyears for this program, all of which was from the Hazardous Substance Superfund appropriation. These resources enabled the Agency to award and administer the contracts and cooperative and interagency agreements required to carry out emergency, enforcement, and remedial response activities and provided central technical support for developing, operating, and maintaining all automated Superfund information systems. The Agency completed environmental audits at EPA laboratories to document the procedures for the disposal of Superfund waste. We provided training to EPA labs on these requirements and developed improved chemical protective clothing information. We also refined health and safety standards and procedures, and maintained and supported the Agency human resources requirements of the Superfund program staff.

HAZARDOUS SUBSTANCE ADMINISTRATIVE MANAGEMENT - REGIONS

1991 Program Request

The Agency requests a total of $3,812,900 supported by 68.8 total workyears for this program, all of which will be for the Hazardous Substance Superfund appropriation. This represents an increase of $357,900 and no change in total workyears from 1990. This change represents increases in personnel and expense costs, increased costs of regulating Superfund clean-up sites, and increased travel and training costs. Regional administrative management activities will include: continuing recruitment of personnel to work in the area of hazardous waste, assuring a reliable health and safety and environmental compliance program, providing adequate ADP technical assistance to support the site-specific

record keeping requirements of the Superfund program and improved information systems for EPA and state operations.

1990 Program

In 1990, the Agency is allocating a total of $3,455,000 supported by 68.8 total workyears for this program, all of which is from the Hazardous Substance Superfund appropriation. These resources provide Regional Superfund administrative support services for personnel, health and safety, environmental compliance of EPA facilities, and information management activities. The program is placing special emphasis on efforts to recruit properly qualified personnel and to provide for the intense and specialized training needs of Superfund employees. Increased efforts are also underway in the area of information resources management to efficiently respond to increasing program demands for staff support.

1989 Accomplishments

In 1989, the Agency obligated a total of $4,767,900 supported by 114.9 total workyears for this program, all of which was from the Hazardous Substance Superfund appropriation. These resources provided a full complement of administrative management services to the Regional Superfund program, including contracting and procurement, personnel, health and safety, and information management activities.

HAZARDOUS SUBSTANCE CONTRACTS AND GRANTS MANAGEMENT - HEADQUARTERS

1991 Program Request

The Agency requests a total of $11,027,100 supported by 139.2 total workyears for this program, all of which will be for the Hazardous Substance Superfund appropriation. This represents an increase of $768,500 and no workyear change over the 1990 program. These resources will provide for increased award and active management of a large number of complex contracts as well as provide support for Superfund enforcement efforts. Quality control over contracts with increasingly high obligation amounts includes the development and implementation of strong conflict of interest guidelines and procedures. Current resources will allow continued improvements in Superfund contract management initiatives. The increased resources will provide more effective assistance and contracts management through greater outreach to the Regions and states; ensure a more aggressive Superfund cost-recovery documentation effort; support more oversight, training and technical assistance to our Federal partners; and develop and refine policy guidance and procedures for more complex procurement needs and cooperative and interagency agreements and new grant programs. In Grants management, we will implement the final Superfund regulation, and continue to increase efforts to combat fraud, waste, and abuse in Superfund Federal assistance and procurement programs.

1990 Program

The Agency is allocating a total of $10,258,600 supported by 139.2 total workyears for this program, all of which will be for the Hazardous Substance Superfund appropriation. We will continue to effectively award and manage

increasing numbers of contracts as well as assure quality control over contracts with high obligation amounts. In grants management, we will continue to award and manage Superfund cooperative agreements, grants and Superfund Interagency Agreements, develop suspension and debarment cases, implement an automated Superfund Interagency Management System, and develop a training curriculum for Regional grant personnel.

1989 Accomplishments

Resources for this program resided in Hazardous Substance Administrative Management - Headquarters in 1989.

HAZARDOUS SUBSTANCE CONTRACTS AND GRANTS MANAGEMENT - REGIONS

1991 Program Request

The Agency requests a total of $2,908,800 supported by 57.0 total workyears for this program, all of which will be for the Hazardous Substance Superfund appropriation. This represents an increase of $269,500 and no change in total workyears over the 1990 program. This change represents increases in personnel and expense costs, increased costs of regulating Superfund clean-up sites, and increased travel and training costs. This program provides the Regional Superfund program offices with procurement and contracts management support for the remedial and removal programs. The Superfund Regional Contracting Officer program will continue to provide the Regional Superfund Program offices with essential contracting expertise needed to actively manage the existing contracts and place new contracts for the emergency and remedial response programs. Documentation and strong management and financial controls will be critical for enforcement and cost recovery efforts. The grants program awards, administers and manages complex Superfund cooperative and interagency agreements and grants for emergency and remedial response activities. Special emphasis will be placed on accountability and ensuring that every Superfund assistance award complies with regulatory and policy requirements and that recipients have the financial, procurement and property systems to account for and safeguard Federal funds.

1990 Program

In 1990, the Agency is allocating a total of $2,639,300 and 57.0 total workyears from the Hazardous Substance Superfund appropriation. These resources provide the Regional Superfund program offices with procurement and contracts management support for the remedial and removal programs and grants management to effectively award, administer and manage Superfund cooperative and interagency agreements. The Regional Grants Management offices will also finalize implementation of an automated grant document and an Interagency Agreement Management System.

1989 Accomplishments

Resources for this program resided in Hazardous Substance Administrative Management-Regions in 1989.

HAZARDOUS SUBSTANCE SUPPORT SERVICES - HEADQUARTERS

1991 Program Request

The Agency requests a total of $40,000,900 for this program, $39,212,900 of which will be for the Hazardous Substance Superfund Appropriation and $788,000 for the Inspector General appropriation. This represents an increase of $3,557,000 in the Hazardous Substance Superfund appropriation and $788,000 in the Inspector General appropriation from 1990. The increase reflects the additional management and support required for the operation of an expanding Hazardous Substance Response program. It also provides for inflation/contract rate increases and telecommunications requirements associated with regional moves. These resources will fund the Hazardous Substance Response program's share of Headquarters and Agency-wide costs. These costs will include: facilities rental, Federal Telecommunications System, revisions and development of information systems, utilities, local telephone services, printing and copying, postage, other building and office services, and health and safety training.

1990 Program

In 1990, the Agency is allocating a total of $35,655,900 for this program, all of which is from the Hazardous Substance Superfund appropriation. These resources fund support costs in Headquarters which include facilities rental, FTS, utilities, local telephone, and other related services.

1989 Accomplishments

In 1989, the Agency obligated a total of $30,741,400 for this program, all of which was from the Hazardous Substance Superfund appropriation. These resources were the Superfund program's share of the Agency management and support costs needed to operate the Headquarters operations, which included facilities rental costs, utilities, telephone charges, and other services.

HAZARDOUS SUBSTANCE SUPPORT SERVICES - REGIONS

1991 Program Request

The Agency requests a total of $17,337,900 for this program, all of which will be for the Hazardous Substance Superfund Appropriation. This represents an increase of $2,977,000 from 1990. This increase will provide for inflation and contract rate increases, Regional moves, purchase of ADP equipment and operation/maintenance costs for the Edison T&E Facility. This will also support the operation of the Hazardous Substance Response program and will cover utilities, local telephone service, printing and copying, minicomputer operations, equipment maintenance, and all other support services related to the Superfund program activities in the Regions.

1990 Program

In 1990, the Agency is allocating a total of $14,360,900 for this program, all of which is from the Hazardous Substance Superfund appropriation. This program provides for utilities, local telephone service, printing and copying,

minicomputer operations, equipment maintenance, and all other support services related to the Superfund program activities in the Regions.

1989 Accomplishments

In 1989, the Agency obligated a total of $18,722,400 for this program, all of which was from the Hazardous Substance Superfund appropriation. This program provided for utilities, local telephone service, printing and copying, minicomputer operations, equipment maintenance, and all other support services related to the Superfund program activities in the Regions.

HAZARDOUS SUBSTANCE COMPUTER SERVICES

1991 Program Request

The Agency requests a total of $11,699,800 for this program, all of which will be for the Hazardous Substance Superfund appropriation. This represents an increase of $1,711,900 which will be used to support the additional ADP requirements for the Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS), and the Superfund Contract Laboratory Program data systems. These resources will provide centralized computing services to the Hazardous Substance Response Program by the Agency's National Computer Center in Research Triangle Park, North Carolina. These fund a portion of the Center's costs for equipment, telecommunications, operating software purchases, maintenance, and facility operations.

1990 Program

In 1990, the Agency is allocating $9,987,900 for this program, all of which is from the Hazardous Substance Superfund appropriation. This amount reflects an increase in the size and use of Hazardous Substance Response program data bases and the Agency's administrative support of the program.

1989 Accomplishments

In 1989, the Agency obligated a total of $9,247,800 for this program, all of which was from Hazardous Substance Superfund appropriation. The program provided computer services to the Hazardous Substance Response program.

HAZARDOUS SUBSTANCE LEGAL SERVICES - HEADQUARTERS

1991 Program Request

In 1991, the Agency requests a total of $910,300 supported by 12.0 total workyears for this program, all of which will be for the Hazardous Substance Superfund appropriation. This represents an increase of $116,000 and no change in total workyears from 1990. The increase will provide for increased personnel and support costs.

The Office of General Counsel (OGC) will provide legal advice and consultation on matters related to the implementation of the Superfund program. The OGC will support the Agency's promulgation of rules, establishment of policy

and preparation of guidance documents for program implementation of the Superfund program. This includes legal support to financial and administrative operation of Superfund, including contract law, audits, cooperative agreements and FOIA. The OGC handles Superfund litigation in which the Agency is a defendant.

1990 Program

In 1990, the Agency is allocating a total of $794,300 supported by 12.0 total workyears for this program, all of which is from the Hazardous Substance Superfund appropriation. The OGC is providing advice and consultation on guidance on program matters such as interpretation of the statute, development of regulations, and changes to the National Contingency Plan; and defense of the Agency in any litigation brought against it concerning CERCLA.

1989 Accomplishments

In 1989, the Agency obligated a total of $792,700 supported by 10.3 total workyears for this program, all of which was from the Hazardous Substance Superfund appropriation. The OGC provided legal guidance in program matters such as statutory interpretation, development of response priorities, review of proposed regulatory actions, and defense of the Agency where litigation had been brought against it concerning CERCLA.

HAZARDOUS SUBSTANCE LEGAL SERVICES - REGIONS

1991 Program Request

In 1991, the Agency requests a total of $1,173,000 supported by 25.9 total workyears for this program, all of which will be for the Hazardous Substance Superfund Appropriation. This represents an increase of $62,800 and an increase of 0.1 total workyears from 1990.

The Offices of Regional Counsel will provide legal advice and consultation on matters related to the implementation of the Superfund program to the Regional Administrators, Regional Superfund managers and State agencies. Principal activities will be the defense of the Agency in CERCLA litigation filed against it, participation in formal administrative proceedings, review of state cooperative agreements, activities relating to access by the public to EPA held information, development of the administrative record for the selection of cleanup remedies, legal support to program response activities, and the provision of a wide variety of legal counsel and advice to Regional, state, and local program officials.

1990 Program

In 1990, the Agency is allocating a total of $1,110,200 supported by 25.8 total workyears for this program, all of which is from the Hazardous Substance Superfund Appropriation. The Offices of Regional Counsel will continue to represent the Agency in regional defensive litigation concerning Superfund. In addition, the Offices of Regional Counsel will provide legal assistance by reviewing state cooperative agreements for legal sufficiency; advising state agencies regarding the legal requirements of the Superfund program; determining

eligible uses of the Fund; and advising on the treatment of requests for EPA held information.

1989 Accomplishments

In 1989, the Agency obligated a total of $1,077,600 supported by 27.2 total workyears for this program, all of which was from the Hazardous Substance Superfund appropriation. The Offices of Regional Counsel provided EPA and state agencies with legal advice and consultation on matters related to the implementation of CERCLA. Principal activities of the Offices of the Regional Counsel included the conduct of defensive litigation, legal review of cooperative agreements with states for site cleanup, and general legal support to the Superfund program in the Regions.

HAZARDOUS SUBSTANCE TRUST FUND - OFFICE OF INSPECTOR GENERAL

1991 Program Request

The Agency requests a total of $12,318,400 supported by 84.8 total workyears for this program all of which will be for Hazardous Substance Trust Fund portion of the Inspector General appropriation. This represents an increase of $2,260,500 and 17.0 total workyears in support of the Inspector General's efforts to perform audits on needs identified in the 1988 Superfund Strategic Audit Plan modified to reflect new statutory requirements, Agency changes in Superfund operations, and our audit experience. We will use these resources to (1) audit critical Superfund remedial activities contracts such as Alternative Remedial Contract Strategy contracts and subcontracts; (2) obtain engineers and scientists to focus on complex, highly technical Superfund remedial investigations/ feasibility studies, and provide critically needed assistance to auditors and investigators on follow-on audits of Superfund removal activities, unannounced site visits, and construction phase of maturing remedial activities program; and (3) investigate allegations of criminal activity and wrongdoing that have a high potential for prosecution.

The OIG performance audits will emphasize (1) policy and program management; (2) remedial cleanup activities; (3) removal responses; (4) enforcement; and (5) program support initiatives. The OIG will expand its external audit coverage as well as provide limited internal audit coverage to examine the economy, efficiency, and effectiveness of the Fund's management. The OIG will continue to investigate referrals of suspected criminal activity with high potential for criminal prosecution. Also, investigative resources will enable the Office of Inspector General to identify and eliminate situations which create the opportunity for fraud and abuse.

1990 Program

In 1990, the Agency is allocating a total $10,057,900 supported by 67.8 total workyears for this program, all of which is from the Hazardous Substance Response Trust Fund appropriation. These resources enable the Office of Inspector General to continue meeting the statutory requirements placed on it by Congress in the Superfund reauthorization. These annual requirements include (1) auditing payments, obligations, reimbursements or other uses of the funds; (2) examining a sample of agreements with States carrying out response actions;

(3) examining remedial investigations and feasibility studies; (4) reviewing the Administrator's status report on all remedial and enforcement actions; and (5) reviewing the Administrator's estimate of the amount of resources necessary for EPA to complete the implementation of its Superfund responsibilities. The OIG will increase its program of external financial audits performed by public accounting firms and other Government audit agencies as well as operate a limited internal performance audit program to examine the economy, efficiency, and effectiveness of the Fund's management. It will investigate referrals of suspected criminal activity with high potential for criminal prosecution and develop and present training for the identification of deficiencies and indicators of wrongdoing.

1989 Accomplishments

In 1989, the Agency obligated a total of $6,612,300 supported by 53.4 workyears for this program, all of which was from the Hazardous Substance Response Trust Fund appropriation. During 1989, the Office of Inspector General issued 61 audit reports on the Fund. Performance audits focused on: improvements in the management of removal actions; and improvements needed in the Agency's accounting for Superfund costs, receivables and property. Superfund audits questioned and recommended cost efficiencies totalling almost $274.5 million of the approximately $800 million audited. Investigative efforts resulted in the identification of several major schemes in connection with cleanup actions that are being pursued for both criminal and civil prosecution.

HAZARDOUS SUBSTANCE - OFFICE OF POLICY, PLANNING AND EVALUATION

1991 Program Request

The Agency requests a total of $3,449,600 supported by 13.1 total workyears for this program, all of which will be for the Hazardous Substance Superfund appropriation. This represents an increase of $238,600 and no change in total workyears from 1990. The increase results from the one-time reductions in 1990 associated with sequestration and Section 517.

In 1991, the Office of Policy Analysis (OPA) will provide analysis to support the renewed strategy for Superfund, e.g., worst sites first and enhanced enforcement, and will identify issues for Superfund Amendment and Reauthorization Act (SARA) reauthorization. Studies will be conducted using historical data to develop models and approaches to reduce costs and time invested in site studies, assure a reasonable relationship between risk reduction and cost effectiveness, and augment and induce consistent, effective use of enforcement tools (i.e., penalties, unilateral orders, cost recovery).

The Office of Regulatory Management and Evaluation (ORME)-formerly the Office of Standards and Regulations (OSR)-will provide statistical support to the program offices, completing the third and fourth guidance manuals for determining when cleanup at Superfund sites meets applicable standards, and will begin provision of training and assistance in the use of the manuals.
ORME will provide consultation on Superfund problems amenable to statistical solution and will implement statistical methods developed for cost-effective allocation of enforcement resources in Superfund activities. ORME will ensure compliance of Superfund regulatory and policy documents with all applicable

requirements, and support negotiation in rulemaking and broader application of consensus-building techniques.

The Office of Pollution Prevention (OPP)-formerly the Office of Management Systems and Evaluation (OMSE) - will complete development of environmental indicators to support measuring environmental progress for the Superfund program nationwide. OPP will continue to support the Agency's planning and performance measurement management systems as they relate to the Superfund program.

1990 Program

In 1990, the Agency is allocating a total of $3,211,000 supported by 13.1 total workyears for this program, all of which is from the Hazardous Substance Superfund appropriation.

OPA continues policy development and analysis of effects of the revised National Contingency Plan (NCP) on program/enforcement implementation under the SARA of 1986. It remains involved in the development, review, and analysis of policy proposals, including extensive workgroup participation. OPA is analyzing the potential for a cost-effective risk reduction model; studying new alternatives to reduce time and cost of Superfund studies; assessing impacts of hazardous waste cleanup on national technical and human resources; analyzing and developing approaches to enhance enforcement; and analyzing the use and effectiveness of institutional controls at Superfund sites.

OSR continues to provide statistical support to the program office, designing statistical methodologies for Superfund site characterization and developing guidelines for evaluating attainment of standards in additional media at disposal sites. In the information policy area, OSR is initiating development of expert system-based electronic data collection instruments which will replace previously used paper forms, build in data quality and control, and provide data in an electronic medium readily transferred to program office data bases. Regulatory innovations are fostering greater participation by potentially responsible parties (PRPs) and states in cleanups, increased use of innovative technology, and consideration of wetland restoration by PRPs through mitigation banks.

OMSE is developing Superfund indicators and providing support for the Agency's planning and performance measurement management systems as they relate to the Superfund program.

1989 Accomplishments

In 1989, the Agency obligated a total of $3,332,800 supported by 11.5 total workyears for this program, all of which was from the Hazardous Substance Superfund appropriation.

OPA concentrated on policy development as the Superfund program implemented the 1986 amendments and the revised NCP. It worked on the development, review, and analysis of policy proposals, including extensive workgroup participation; conducted comprehensive analysis of Superfund risk data; assisted the Regions in implementing risk assessment methodologies and decision-making processes; evaluated the impact of the amendments and the revised NCP on remedy decisions;

and analyzed the role of states and citizens in the Superfund process as an adjunct to OMSE studies.

OSR continued development of statistical guidance for determining attainment of cleanup standards at Superfund sites, supported enforcement of Superfund site cleanup, and provided statistical consultation on complex or unique problems. OSR's efforts to develop innovative approaches to implementation of Superfund included application of alternative dispute resolution to expedite Superfund settlements and fostering of innovative cleanup technologies.

OMSE worked with the program office to identify and study Superfund implementation issues to provide options for overcoming obstacles to effective implementation of the Superfund program. The Superfund Indicators Demonstration Project continued with focus groups including the public, the Congress, and other interest groups to test the usefulness of measures for communicating progress. OMSE evaluation studies included identifying and overcoming managerial, organizational and institutional factors that adversely affect implementation of the Superfund program. OMSE also studied the feasibility of evaluating EPA's efforts to improve states' ability to deal with hazardous waste.

HAZARDOUS SUBSTANCE - OFFICE OF THE COMPTROLLER

1991 Program Request

The Agency requests a total of $1,481,000 supported by 13.9 total workyears for this program, all of which will be for the Hazardous Substance Superfund appropriation. This represents an increase of $490,100 from 1990. These increases reflect the management and support required for an expanding Hazardous Substance Response program, and expansion of the Agency's Productivity fund. These resources will support: the preparation of the Agency's budget submissions to the Office of Management and Budget (OMB) and Congress; response to Congressional inquiries; analysis and review of major issues concerning workload and pricing models; analysis of on-going resource issues related to the operation and management of the Trust Fund; and internal controls of Superfund finances.

1990 Program

In 1990, the Agency is allocating a total of $990,900 and 13.9 total workyears for this program, all of which is from the Hazardous Substance Superfund appropriation. These resources support on-going budget activities, responses to Congressional inquiries, and analysis of on-going resource issues.

1989 Accomplishments

In 1989, the Agency obligated a total of $607,000 and 9.5 total workyears for this program, all of which was from the Hazardous Substance Superfund appropriation. The Office of the Comptroller coordinated and prepared the OMB and Congressional budget submissions, responded to Congressional inquiries, and provided fund oversight activities including on-going resource reviews for the Superfund program. In addition, the program conducted in-house studies on site-specific charging.

HAZARDOUS SUBSTANCE - EXECUTIVE OFFICES

1991 Program Request

The Agency requests a total of $1,022,600 supported by 11.4 total workyears for this program, all of which is for the Hazardous Substance Superfund appropriation. This represents a decrease of $278,000 and an increase of 0.1 workyear from 1990. These resources will include support for the National Environmental Service Officer (NESO) located within the Office of Regional Operations and State/ Local Relations. The NESO will conduct management reviews of Environmental Services Divisions (ESDs); develop Headquarters guidance to ensure efficiency in the use of resources and improved planning/procurement system; represent ESDs in the Superfund program planning and budget activities including workload model development; ensure Superfund policies are effectively communicated to ESDs; schedule and convene quarterly ESDs conferences; plan, schedule and convene meetings of the Superfund Analytical Services Advisory Committee; evaluate options for securing the most effective lab support to meet Superfund goals; and review ESD lab capabilities and their cost effectiveness. In addition, the Office of the Administrator will continue to use existing, and develop new, communication vehicles to exchange information on acute hazardous National Priority List (NPL) site activity, emergency planning, chemical release information, and enforcement activity. The Office will also continue to work closely with the Regions and newly established emergency response commissions and local emergency planning committees, and other citizen groups in site activities. This program will also assist Federal agencies in addressing and documenting over 3,000 sites in an EPA Federal agency hazardous waste docket, as well as prepare guidance and technical assistance documents to assess sites in the docket and, if listed on the NPL, to begin remediation efforts. Also, grants training will be funded for small and minority contractors for cleanup areas.

1990 Program

In 1990, the Agency is allocating a total of $1,300,600 supported by 11.3 total workyears for this program, all of which is from the Hazardous Substance Superfund appropriation. The NESO will continue to provide the ESDs with Headquarters policy guidance, oversight, and management support, in areas affecting both ESDs and Superfund. In addition the Office of the Administrator is supporting the Regions and assisting states and localities with plans to respond to chemical emergencies. The Office is playing a critical role in exchanging information with local health professionals, public safety officials, local government and state government officials. Also, training is being provided for small and minority contractors for cleanup areas.

1989 Accomplishments

In 1989, the Agency obligated a total of $409,400 supported by 1.1 total workyears, all of which was from the Hazardous Substance Superfund appropriation. The Office coordinated the identification of inactive sites with other Federal agencies; provided a wide variety of communication support, including the development of fact sheets and publications; developed Section 120 implementation guidance and policies related to Federal sites and played an active role in assisting agencies in meeting Superfund Amendments and Reauthorization Act (SARA) requirements; and worked on information exchange with state and local

governments. In addition, the program provided the ESDs with policy guidance, oversight, and management support; identified hazardous waste sites, provided sample and site tracking, and developed a national equipment planning and procurement process for ESDs to meet Superfund and other Agency needs.

HAZARDOUS SUBSTANCE - OFFICE OF RESEARCH AND DEVELOPMENT - MANAGEMENT AND SUPPORT

1991 Program Request

The Agency requests a total of $714,100 and 1.8 workyears for this program, all of which will be for the Hazardous Substance Superfund appropriation. This represents an increase of $181,500. This increase reflects the increased costs of operation. These resources will provide essential management support services for remote laboratories of the Office of Research and Development (ORD) which conduct research on hazardous substances. These resources will fund facilities operation and maintenance, utilities and equipment operations, rental costs, and other support costs essential for the management operation and maintenance of ORD's remote laboratories that support Superfund research.

1990 Program

In 1989, the Agency is allocating a total of $532,600 and 1.8 workyears for this program, all of which is from the Hazardous Substance Superfund appropriation. These resources provide essential services, as described above, required to operate and maintain ORD's remote laboratories in support of Superfund research.

1989 Accomplishments

In 1989, the Agency obligated $220,200 and no workyears for this program, all of which was from the Hazardous Substance Superfund appropriation. This funding provided the essential ORD laboratory support services associated with the Superfund research program.

15. L.U.S.T.

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LEAKING UNDERGROUND STORAGE TANK TRUST FUND
LUST Technical Support

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
PROGRAM					
Environmental Engineering & Technology - LUST					
Leaking Underground Storage Tanks Trust	$757.8	$761.6	$754.2	$767.9	$13.7
TOTAL	$757.8	$761.6	$754.2	$767.9	$13.7
TOTAL:					
Leaking Underground Storage Tanks Trust	$757.8	$761.6	$754.2	$767.9	$13.7
LUST Technical Support TOTAL	$757.8	$761.6	$754.2	$767.9	$13.7
PERMANENT WORKYEARS					
Environmental Engineering & Technology - LUST	1.9	2.0	2.0	1.9	-.1
TOTAL PERMANENT WORKYEARS	1.9	2.0	2.0	1.9	-.1
TOTAL WORKYEARS					
Environmental Engineering & Technology - LUST	1.9	2.0	2.0	1.9	-.1
TOTAL WORKYEARS	1.9	2.0	2.0	1.9	-.1

LEAKING UNDERGROUND STORAGE TANKS

Principle Outputs by Objective

Objective 1: Leaking Underground Storage Tank Trust Fund Technical Support.

1991: o Report on the field evaluation of soil washing technology at a LUST site of opportunity

- o Field evaluation of soil vapor extraction screening and design model
- o Development and evaluation of soil vapor extraction "enhancements/co-treatment techniques"

1990: o Report on the application (Screening/Protocol) of soil washing technology at LUST sites

- o Technical assistance documents on soil vapor extraction technology application, design and evaluation at LUST sites.
- o Feasibility evaluation of the application of electro-osmosis and low temperature thermal desorption technologies for LUST sites.

1989: o Development and demonstration of UST corrective action case histories database system

- o Reports on site assessment and selection of treatment technologies for corrective actions in the unsaturated and saturated zones at LUST sites.
- o Workshop/Proceedings on the application of soil vapor extraction technology to LUST sites

LEAKING UNDERGROUND STORAGE TANK (LUST) TRUST FUND

LUST Technical Support

Budget Request

The Agency requests a total of $767,900 supported by 1.9 total workyears all of which will be for the Leaking Underground Storage Tank (LUST) Trust Fund. This represents an increase of $13,700 and a decrease of 0.1 workyears from 1990. The increase will fund increased personnel and support costs.

Program Objective

This program provides technical support to Federal, state, and local agencies implementing the Leaking Underground Storage Tank (LUST) Trust Fund Program.

Objective 1: LUST Trust Fund Technical Support. These activities provides technical support to EPA's Office of Underground Storage Tanks (OUST), Regions, states, and local agencies implementing the LUST Trust Fund Program. This work contributes to ensuring the selection of the best available site assessment and cleanup procedures by responsible authorities.

ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

1991 Program Request

The Agency requests a total of $767,900 supported by 1.9 total workyears for this program all of which will be for the Leaking Underground Storage Tank Trust Fund. This represents an increase of $13,700 and a decrease of 0.1 FTEs in workyears from 1990. The increase will fund increased personnel and support costs.

In 1991, this program will evaluate selected cleanup technologies developed for petroleum and hazardous chemical releases and demonstrate them at LUST sites. These evaluations are an important form of technical guidance to provide cost-effective corrective actions at LUST sites. Evaluations and demonstrations will focus on soil washing and in-situ soil flushing techniques.

1990 Program

In 1990, the Agency is allocating a total of $754,200 supported by 2.0 total workyears for this program, all of which is from the LUST Trust Fund.

1989 Accomplishments

In 1989, the Agency obligated a total of $757,800 supported by 1.9 total workyears for this program, all of which was from the LUST Trust Fund. The program evaluated and demonstrated RCRA and CERCLA cleanup technologies developed for petroleum and hazardous chemical releases for applicability to petroleum leaks from underground tanks. Case studies of past and on going corrective actions were performed and the outline of a guidance document on site specific procedures for cost-effective corrective actions were prepared.

Research and Development

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LEAKING UNDERGROUND STORAGE TANK

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
APPROPRIATION					
Leaking Underground Storage Tanks Trust	$50,875.4	$74,822.0	$74,097.0	$75,000.2	$903.2
Office of Inspector General				$574.8	$574.8
TOTAL, Leaking Underground Storage Tank Trust	$50,875.4	$74,822.0	$74,097.0	$75,575.0	$1,478.0
PERMANENT WORKYEARS	77.7	91.3	85.7	93.9	8.2
TOTAL WORKYEARS	82.4	91.3	91.3	93.9	2.6
OUTLAYS	$32,859.0	$35,707.0	$35,489.0	$49,645.0	$14,156.0
AUTHORIZATION LEVELS	The Superfund Amendments and Reauthorization Act (SARA) of 1986, established the Leaking Underground Storage Tanks Trust Fund and authorizes a total of $500,000,000 to be appropriated to this fund from 1987 to 1991.				

LEAKING UNDERGROUND STORAGE TANKS

OVERVIEW AND STRATEGY

The goal of Subtitle I of the Hazardous and Solid Waste Amendments of 1984 (HSWA), as amended by the Superfund Amendments and Reauthorization Act of 1986, is to ensure the timely and appropriate remediation of facilities with leaking underground storage tanks containing petroleum. Owners and operators of underground storage tanks (UST) facilities have primary responsibility for response actions to address leaking tanks,and they must maintain evidence that they are financially capable of implementing corrective action. The Agency's primary objective is to implement the Leaking Underground Storage Tank (LUST) program and administer the LUST Trust Fund through cooperative agreements with the states. The Agency will conduct Federal response only under limited circumstances.

The LUST Trust Fund is financed through a Federal tax on petroleum products, and it may be used to: 1) identify owners/operators; 2) take enforcement actions to compel owners/operators to conduct response actions; 3) perform necessary response actions when the tank is abandoned or the owner/operator is unable or unwilling to take action; and 4) pursue cost recovery of Fund-financed cleanups from owners/operators. The LUST program provides an incentive for states to recover funds expended on direct state cleanups -- recovered Trust funds remain at the state level and may be used for other eligible activities under state cooperative agreements.

The Agency's national LUST program management approach is based on private industry's franchise concept. This means that the Agency provides financial, management, technical, and outreach assistance, while the states are primarily responsible for implementing the LUST program under national program guidance.

EPA negotiates cooperative agreements annually with the states to plan, develop, administer, and enforce the LUST cleanup program. This highly successful management approach has resulted in 54 of the 56 states and territories signing cooperative agreements to undertake the cleanup program.

By 1991, most state LUST programs will have developed response and enforcement capabilities. As the deadlines for meeting leak detection regulations, which require owners/operators to gradually institute an approved method of leak detection on all of their USTs, continue to be phased-in, an increasing number of tank releases are expected to be discovered and reported. The state programs supported under the Trust Fund will continue to focus on conducting the necessary compliance and enforcement work to get owners and operators to take corrective action. EPA will continue to provide national guidance and scientific and management support to the states.

Continue to Build and Implement Strong State Programs

The LUST request for 1991 is based on two major factors. First, the number of leaks reported is expected to grow because of the continued phase-in of Federal leak detection requirements. While the Agency is expecting that the

majority of leaks will be addressed by owners/operators, continued funding is necessary to enable states to conduct site investigations and to oversee owner/operator cleanups.

Second, with resources provided through cooperative agreements, nearly all states are expected to have achieved the response and enforcement capacity necessary to implement their programs. Therefore, in developing these agreements, the Agency will target resources for both enforcement and response actions.

The Agency, in its franchising role, will continue to develop and distribute practical program management tools for state and local governments, including improved techniques for corrective action and assistance with achieving compliance. Regions will identify specific program management processes which can be improved and will provide on-going technical information, assistance, and training support to the states.

Improve and Strengthen Enforcement

The Agency will continue to develop enforcement tools to assist states in implementing the LUST program. The program will emphasize improving the quality of corrective actions, reviewing corrective action plans, and identifying and approving long-term monitoring needs. Headquarters will develop effective tools to assist states in improving the responsiveness of owners/operators. Regional staff will continue to provide technical assistance for state enforcement.

Provide Scientific Support for Field Response Actions

The Agency will provide technical support to the states and local agencies responsible for the implementation of the LUST Trust Fund program. Technical support will focus on providing scientific expertise on more rapid and lower cost approaches for assessing site contamination and evaluating improved methods for response technologies.

Continue Efficient Management Support

Management and Support will continue to assist the LUST program by providing accurate and timely financial services, effective budgeting and funds control, efficient contracts management, and centralized personnel services.

LUST Audit Support

The Office of the Inspector General will provide oversight of the Agency and states in implementing the LUST program. The Office of the Inspector General will initiate performance and financial audits, and investigations to ensure that the program is being properly managed and to identify possible deficiencies.

Abatement and Control

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LUST Guidelines & Implementation

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
PROGRAM						
Guidelines & Implementation - LUST Trust Fund GU						
Leaking Underground Storage Tanks Trust		$47,915.7	$71,180.1	$70,331.6	$71,058.0	$726.4
	TOTAL	$47,915.7	$71,180.1	$70,331.6	$71,058.0	$726.4
TOTAL:						
Leaking Underground Storage Tanks Trust		$47,915.7	$71,180.1	$70,331.6	$71,058.0	$726.4
LUST Guidelines & Implementation	TOTAL	$47,915.7	$71,180.1	$70,331.6	$71,058.0	$726.4
PERMANENT WORKYEARS						
Guidelines & Implementation - LUST Trust Fund GU		60.4	62.0	59.4	62.0	2.6
TOTAL PERMANENT WORKYEARS		60.4	62.0	59.4	62.0	2.6
TOTAL WORKYEARS						
Guidelines & Implementation - LUST Trust Fund GU		63.9	62.0	62.0	62.0	0.0
TOTAL WORKYEARS		63.9	62.0	62.0	62.0	0.0

LEAKING UNDERGROUND STORAGE TANKS (LUST) TRUST FUND

LUST Guidelines and Implementation

Budget Request

The Agency requests a total of $71,058,000 supported by 62.0 total workyears for the Leaking Underground Storage Tanks Trust Fund appropriation.

LUST GUIDELINES AND IMPLEMENTATION

1991 Program Request

The Agency requests a total of $71,058,000 supported by 62.0 total workyears for the 1991 Leaking Underground Storage Tank Trust Fund appropriation. This represents an increase of $726,400 and no change in total workyears from 1990. This increase will be used to carry out site assessments, enforcement, and corrective action work on Indian lands since these activities are not covered by state programs.

The number of sites requiring response actions will increase as owners/operators continue to install leak detection devices and as insurance companies require testing for leaks prior to issuing owner/operator insurance policies. By 1991, over 60 percent of the 2 million regulated underground storage tanks will have been tested for leaks. As tanks are tested or removed, increasing numbers of leaks will be discovered. The Agency estimates that 80 to 90 percent of the releases discovered will be addressed by the owners/operators of underground storage tank facilities. However, Federal assistance will be necessary to support states as they conduct site investigations based on their priority lists, encourage owners/operators to take appropriate action, and provide oversight of owner/operator responses. Direct state response actions for some sites will require funding from the Federal Trust fund or from state funding sources. When a leak is reported on Indian lands, EPA will provide assistance to tribal leaders in site assessment, compelling and overseeing owner/operator response, and enforcement.

The Agency will continue to support the development and implementation of state response programs through LUST Trust Fund Cooperative Agreements and a variety of mechanisms based on state needs. The Agency will design and disseminate practical tools, techniques, and training (including handbooks and videos) to help the Regions, states, and regulated community to address their on-going workload and to improve performance in the field. EPA will also assist states in developing their own state trust funds to finance responses at abandoned sites or sites where the owner/operator is unable or unwilling to respond. Additionally, EPA will continue to improve cost recovery projects in the states to recover monies expended from the Trust fund. The funds recovered by the states may be utilized to finance other LUST Trust Fund eligible activities and projects.

1990 Program

The Agency is allocating a total of $70,331,600 supported by 62.0 total workyears from the 1990 Leaking Underground Storage Tank Trust Fund appropriation.

The Agency will develop, maintain, and improve the national LUST management system which is composed of state and local programs. The Agency continues to work with the states to improve their performance in site assessments and corrective actions. Specifically, state projects will focus primarily on methods needed to streamline site measurement techniques and to improve the quality of corrective action plans.

The Agency will continue to develop and renew state Trust Fund Cooperative Agreements. The Regions continue to make use of Targeted Improvement Projects (TIPs) to test and disseminate improved tools, methods, and systems to support the response program as it seeks to meet an increasing workload -- resulting from the phasing-in of Federal leak detection and financial responsibility requirements. Current development and pilot work focuses on streamlining the state procedures for site closures, site assessments and corrective action plan review. The Lust Trust Fund will continue to help the states identify and assess leaking tanks sites, and to get owners to respond through a variety of enforcement actions.

1989 Accomplishments

In 1989, the Agency obligated a total of $47,915,700 supported by 63.9 total workyears from the Leaking Underground Storage Tank Trust Fund appropriation.

States have identified sites and encouraged owners/operators to take response actions at their sites. States have also taken enforcement actions to compel owner/operator response. A significant portion of these state efforts are funded through LUST Trust Fund Cooperative Agreements.

The Agency has also conducted a number of pilot projects with states to address specific implementation and field problems, such as improving site assessments and corrective action methods. The Agency has developed an enforcement strategy which focuses on achieving voluntary compliance through the use of innovative and informal enforcement techniques. Although the states have primary enforcement responsibility, support must come from the Agency when necessary.

The Agency oversaw the development and implementation of state response programs, and provided technical assistance to states that needed to develop Cooperative Agreements to enter the program. Agency assistance included the examination of state programs, procedures, mechanisms for addressing releases and the use of appropriate program and fiscal management systems.

Enforcement

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LUST Legal Enforcement

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
PROGRAM						
LUST - Legal Enforcement						
Leaking Underground Storage Tanks Trust		$145.5	$266.1	$278.2	$280.0	$1.8
	TOTAL	$145.5	$266.1	$278.2	$280.0	$1.8
TOTAL:						
Leaking Underground Storage Tanks Trust		$145.5	$266.1	$278.2	$280.0	$1.8
LUST Enforcement	TOTAL	$145.5	$266.1	$278.2	$280.0	$1.8
PERMANENT WORKYEARS						
LUST - Legal Enforcement		2.9	5.6	4.5	5.5	1.0
TOTAL PERMANENT WORKYEARS		2.9	5.6	4.5	5.5	1.0
TOTAL WORKYEARS						
LUST - Legal Enforcement		3.2	5.6	5.6	5.5	-.1
TOTAL WORKYEARS		3.2	5.6	5.6	5.5	-.1

LEAKING UNDERGROUND STORAGE TANK (LUST) TRUST FUND
LUST Legal Enforcement

Budget Request

The Agency requests a total of $280,000 supported by 5.5 total workyears for 1991, all of which will be for the Leaking Underground Storage Tank Trust Fund appropriation. This represents an increase of $1,800 and a decrease of 0.1 workyears.

1991 Program Request

The Agency requests a total of $280,000 supported by 5.5 total workyears, all of which will be for the Leaking Underground Storage Tank Trust Fund appropriation. This represents an increase of $1,800 and a decrease of 0.1 total workyears from 1990. The workyear decrease reflects a redistribution of workyears within the Agency to accommodate the resource needs of the Office of the Inspector General.

In 1991, Regional legal enforcement staff will provide technical assistance and oversight to States by using informal or expedited enforcement approaches to enhance effective State programs. Minimal Federal oversight and involvement in enforcement actions will also continue. Emphases of the program will be: 1) initiation and follow through of enforcement activity, where a release from an underground storage tank poses a major environmental emergency and 2) pursuit of cost recovery where the LUST Trust Fund has been used for cleanup because owner/operator insurance was inadequate. Federal enforcement actions will be limited. However, there will be some instances where formal enforcement actions (administrative compliance and judicial orders) will be used to compel response actions by recalcitrant owners and operators.

1990 Program

In 1990, the Agency is allocating a total of $278,200 supported by 5.6 total workyears for this program, all of which is from the Leaking Underground Storage Tank Trust Fund appropriation.

Regional legal enforcement staff are providing technical assistance and cost recovery guidance to States, with signed Cooperative Agreements, for enforcement activities. Coordination between States and EPA is required to ensure uniform implementation, particularly regarding issues involving enforcement actions, cost recovery, and financial viability of owners/operators. Resources will strengthen State programs with a view toward increasing compliance with LUST regulations. State Cooperative Agreements, negotiated with EPA, give States authority to determine the need for and type of response actions. The Federal role is to ensure that State enforcement programs comply with regulations and to help identify and resolve State-specific enforcement issues.

1989 Accomplishments

In 1989, the Agency obligated a total of $145,500 supported by 3.2 total workyears from the Leaking Underground Storage Tank Trust Fund appropriation. Workload of Regional legal enforcement staff primarily focused on providing assistance to States in cooperative agreement negotiations.

Management and Support

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

1991 Budget Estimate

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LEAKING UNDERGROUND STORAGE TANK TRUST FUND
LUST Management & Support

		ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
		(DOLLARS IN THOUSANDS)				
PROGRAM						
Policy & Analysis - Office of Policy, Planning & Evaluation						
Leaking Underground Storage Tanks Trust		$300.5	$272.6	$270.0	$276.9	$6.9
	TOTAL	$300.5	$272.6	$270.0	$276.9	$6.9
Adminisrative Management - Office of Administration & Resources Management						
Leaking Underground Storage Tanks Trust		$1,612.0	$2,046.9	$2,198.0	$2,323.5	$125.5
	TOTAL	$1,612.0	$2,046.9	$2,198.0	$2,323.5	$125.5
Legal Services - Office of General Counsel						
Leaking Underground Storage Tanks Trust		$143.9	$294.7	$265.0	$293.9	$28.9
	TOTAL	$143.9	$294.7	$265.0	$293.9	$28.9
Office Of Inspector General - Lust						
Office of Inspector General					$574.8	$574.8
	TOTAL				$574.8	$574.8
TOTAL:						
Leaking Underground Storage Tanks Trust		$2,056.4	$2,614.2	$2,733.0	$2,894.3	$161.3
Office of Inspector General					$574.8	$574.8
LUST Management & Support	TOTAL	$2,056.4	$2,614.2	$2,733.0	$3,469.1	$736.1
PERMANENT WORKYEARS						
Policy & Analysis - Office of Policy, Planning & Evaluation		.8	.3	.3	.3	0.0
Adminisrative Management - Office of Administration & Resources Management		9.8	16.0	15.0	15.4	.4
Legal Services - Office of General Counsel		1.9	5.4	4.5	5.3	.8
Office Of Inspector General - Lust					3.5	-3.5
TOTAL PERMANENT WORKYEARS		12.5	21.7	19.8	24.5	4.7

LEAKING UNDERGROUND STORAGE TANK TRUST FUND
LUST Management & Support

	ACTUAL 1989	ENACTED 1990	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
	(DOLLARS IN THOUSANDS)				
TOTAL WORKYEARS					
Policy & Analysis - Office of Policy, Planning & Evaluation	.8	.3	.3	.3	0.0
Adminisrative Management - Office of Administration & Resources Management	9.8	16.0	15.7	15.4	-.3
Legal Services - Office of General Counsel	2.8	5.4	5.7	5.3	-.4
Office Of Inspector General - Lust				3.5	3.5
TOTAL WORKYEARS	13.4	21.7	21.7	24.5	2.8

LEAKING UNDERGROUND STORAGE TANK (LUST) TRUST FUND

LUST Management and Support

Budget Request

The Agency requests a total of $3,469,100 supported by 24.5 total workyears for 1991, all of which will be for the Leaking Underground Storage Tank Trust Fund appropriation. This represents an increase of $736,100 and an increase of 2.8 total workyears from 1990.

POLICY AND ANALYSIS - OFFICE OF POLICY, PLANNING AND EVALUATION

1991 Program Request

The Agency requests a total of $276,900 supported by 0.3 total workyears for this program, all of which will be for the Leaking Underground Storage Tank Trust Fund appropriation. This represents an increase of $6,900 and no change in total workyears from 1990. The increase results from the one-time reductions in 1990 associated with sequestration and Section 517.

The Office of Policy Analysis (OPA) will continue its support and development of risk-based decision-making tools (both proactive and reactive) for state underground storage tank (UST) programs to help states target leaking (L)USTs that present the greatest risk. In addition, OPA will evaluate the UST model (i.e., franchise approach, continuous improvement philosophy, Demming management method) to assess whether the successes of the UST program may have some applicability to the Agency's other contaminated media programs.

1990 Program

In 1990, the Agency is allocating a total of $270,000 supported by .3 total workyear for this program, all of which is from the Leaking Underground Storage Tank Trust Fund appropriation.

OPA continues to assist the program in developing a better understanding of the problem created by the approximately 3,400,000 USTs exempt from UST requirements, as well as developing programs to control this problem. OPA also is assisting states in developing better priority-setting and UST classification schemes and tools to improve corrective action decision making. In each of these areas, OPA is refining the tools and methodologies developed in 1989 to improve their usefulness in a different state or local setting, expand upon their current applications to include new ones (e.g., from reactive to proactive priority setting), and evaluate how best to implement, deliver and distribute these to states and possibly local communities.

1989 Accomplishments

In 1989, the Agency obligated a total of $300,500 supported by 0.8 total workyear for this program, all of which was from the Leaking Underground Storage Tank Trust Fund appropriation.

OPA continued its participation on two workgroups -- Financial Responsibility Requirements (FRR) for Petroleum USTs and FRRs for Chemical USTs; and assisted the program with the implementation of Technical Standards Rule. With emphasis shifting from policy development to implementation, it actively assisted the program office in the analysis and evaluation of broad regulatory and LUST Trust Fund issues and played an active role in the development of a report to Congress on exempt farm and heating oil tanks. OPA also continued to implement its LUST workplan, which covered a broad set of issues. These included ground-water protection issues, such as the corrective action decision-making process; and implementation analysis, such as facilitating risk-based decision making in the field of data management tools for state UST programs. OPA also initiated general policy studies, including measuring the LUST program's environmental results.

ADMINISTRATIVE MANAGEMENT - HEADQUARTERS

1991 Program Request

The Agency requests a total of $1,268,600 supported by 8.8 total workyears for this program, all of which will be for the Leaking Underground Storage Tank Trust Fund appropriation. This represents an increase of $98,500 and a decrease of .2 total workyears from 1990. These resources will be used to provide support costs such as rent, utilities, security and mail operations for the LUST program and administrative services, such as contracts, grants, health and safety, and environmental compliance, personnel support, and basic financial services such as processing payroll and vouchers, and producing accurate financial reports.

1990 Program

In 1990, the Agency is allocating a total of $1,170,100 supported by 9.0 total workyears for this program, all of which is from the Leaking Underground Storage Tank Trust Fund appropriation. These resources are used to provide support services, financial services, and administrative services as described above.

1989 Accomplishments

In 1989, the Agency obligated a total of $1,179,300 supported by 6.5 total workyears, all of which was from the Leaking Underground Storage Tank Trust Fund appropriation. These resources provided support services, financial services, and administrative services described above.

ADMINISTRATIVE MANAGEMENT - REGIONS

1991 Program Request

The Agency requests a total of $1,054,900 supported by 6.6 total workyears for this program, all of which will be for the Leaking Underground Storage Tank Trust Fund appropriation. This represents an increase of $27,000 and a decrease of 0.1 total workyear from 1990. Resources will provide support costs such as rent, utilities, security, and mail operations for the LUST program. Basic grant

management services will be provided as well as financial services such as processing payroll and vouchers and providing accurate financial reports.

1990 Program

In 1990, the Agency is allocating a total of $1,027,900 supported by 6.7 total workyears for this program, all of which is from the Leaking Underground Storage Tank Trust appropriation. These resources are used to provide support services and financial/grant services as described above.

1989 Accomplishments

In 1989, The Agency obligated a total of $432,700 supported by 3.3 workyears, all of which was from Leaking Underground Storage Tank Trust Fund appropriation. These resources were used to provide support services and financial/grant services as described above.

LEGAL SERVICES - OFFICE OF GENERAL COUNSEL

1991 Program Request

The Agency requests a total of $293,900 supported by 5.3 total workyears for this program, all of which will be for the Leaking Underground Storage Tank Trust Fund appropriation. This represents an increase of $28,900 and a decrease of 0.4 in total workyears from 1990. The increase reflects increased personnel and support costs.

The resources will provide legal support for the development of guidelines and policies for administration of the Fund, supporting cooperative agreements between EPA and States, providing advice and interpretations, and defense of the Agency in legal actions taken against it regarding the Trust Fund.

1990 Program

In 1990, the Agency is allocating a total of $265,000 supported by 5.7 total workyears for this program, all of which is from the Leaking Underground Storage Tank Trust Fund appropriation.

The request will provide legal support for the development of guidelines and policies for administration of the fund; support cooperative agreements between EPA and States; and provide advice, interpretations, and defense for the Agency in legal actions taken against it regarding the Trust Fund.

1989 Accomplishments

In 1989, the Agency obligated a total of $143,900 supported by 2.8 total workyears, all of which was from the Leaking Underground Storage Tank Trust Fund appropriation. Legal support was provided to the development of guidelines and policies through advice, counsel and interpretations.

LEAKING UNDERGROUND STORAGE TANKS TRUST FUND - OFFICE OF INSPECTOR GENERAL

1991 Program Request

The Agency requests a total of $574,800 supported by 3.5 total workyears for this program all of which will be for Leaking Underground Storage Tanks Trust Fund portion of the Inspector General appropriation. This represents an increase of $574,800 and 3.5 total workyears from 1990. Under the Inspector General Act of 1978, as amended, the Office of Inspector General has authority to inquire into the Agency's program and administrative activities and related activities of all parties performing under contracts, grants, and other agreements with the Agency. The Superfund Amendments and Reauthorization Act of 1986 established the Leaking Underground Storage Tanks Trust fund and authorizes a total of $500,000,000 to be appropriated to this fund from 1987 to 1991. We have not audited the trust fund activities in prior years in order to give the Agency adequate lead time to get the program underway. The resources requested will be used by the Office of Inspector General to initiate audits of the Agency's progress in implementing the program and the Leaking Underground Storage Tanks Trust fund's financial statements to ensure the program is being properly managed, and to conduct investigations related to the fund.

1990 Program

In 1990, there were no requests for funding or workyears for audits or investigations of this program.

1989 Accomplishments

In 1989, no funds were obligated for this program. We conducted a preliminary audit of the Leaking Underground Storage Tank program to assist management in identifying improvements in the program. The audit identified recommended efficiencies of $901,310. Based on this initial audit, we believe additional audits are necessary as the program matures.

16. Special Analyses

SECTION TAB

ENVIRONMENTAL PROTECTION AGENCY

SPECIAL ANALYSIS

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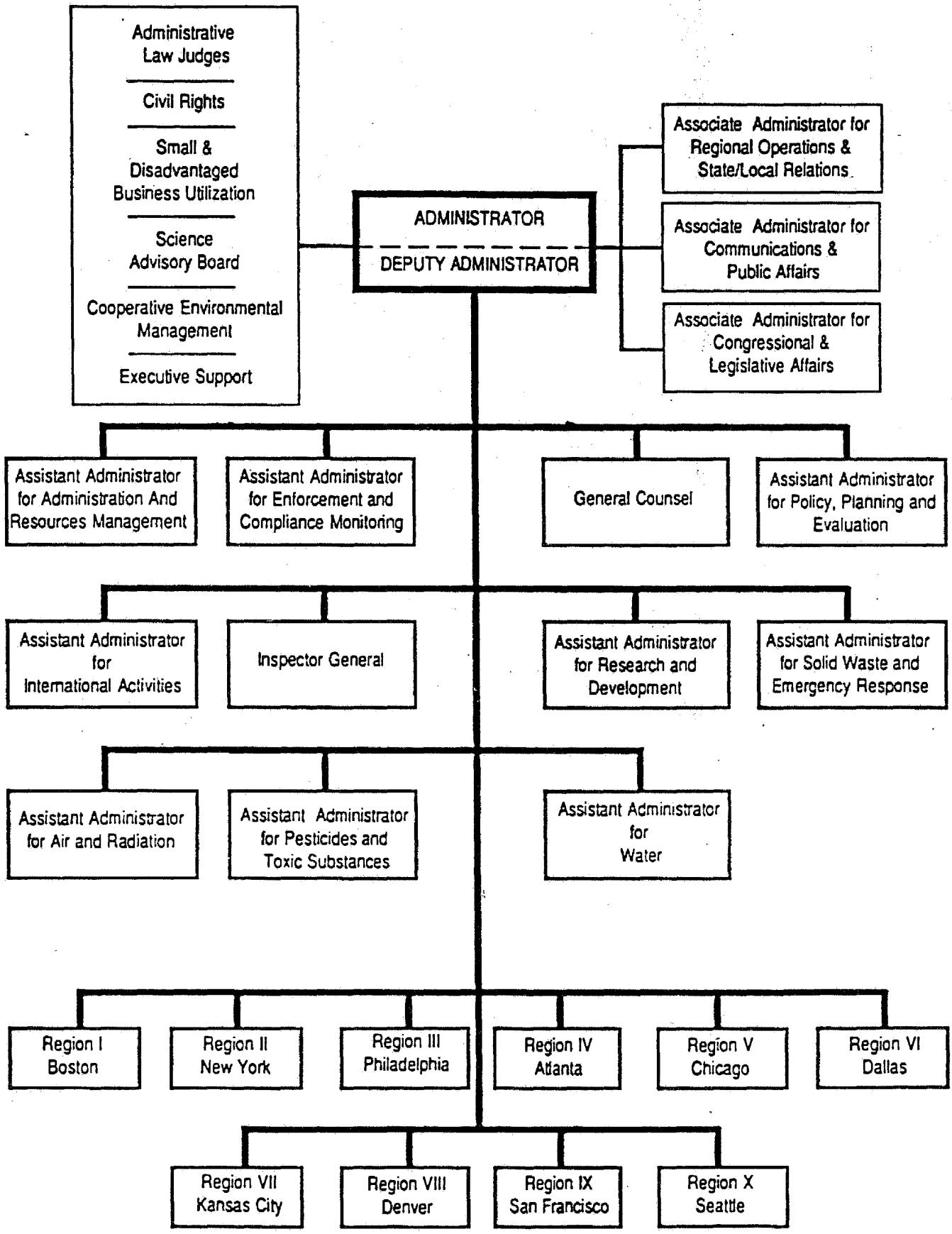
U.S. Environmental Protection Agency



ENVIRONMENTAL PROTECTION AGENCY

REGIONS

Locations and States

Region I	Headquarters, Boston, Massachusetts Connecticut, Maine, Massachusetts New Hampshire, Rhode Island, Vermont
Region II	Headquarters, New York, New York New Jersey, New York, Puerto Rico Virgin Islands
Region III	Headquarters, Philadelphia, PA Delaware, District of Columbia, Maryland Pennsylvania, Virginia, West Virginia
Region IV	Headquarters, Atlanta, Georgia Alabama, Florida, Georgia, Kentucky Mississippi, North Carolina, South Carolina, Tennessee
Region V	Headquarters, Chicago, Illinois Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin
Region VI	Headquarters, Dallas, Texas Arkansas, Louisiana, New Mexico, Oklahoma, Texas
Region VII	Headquarters, Kansas City, Kansas Iowa, Kansas, Missouri, Nebraska
Region VIII	Headquarters, Denver, Colorado Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming
Region IX	San Francisco, California Arizona, California, Hawaii, Nevada American Samoa, Guam, Trust Territories of Pacific Islands, Northern Mariana Islands
Region X	Headquarters, Seattle, Washington Alaska, Idaho, Oregon, Washington

ENVIRONMENTAL PROTECTION AGENCY

Summary of Budget Authority,
Obligations, Outlays, and Workyears
By Appropriation
(dollars in thousands)

	Actual 1989	Enacted 1990	Current Estimate 1990	Request 1991	Increase/ Decrease 1991 Req. vs. Current 1990
Salaries and Expenses					
Budget Authority.....	$ 815,000.4	$ 861,026.6	$ 863,998.1	$ 999,700.0	$ 135,701.9
Obligations.....	808,774.9	861,026.6	863,998.1	999,700.0	135,701.9
Outlays.....	834,444.0	833,445.0	836,000.0	969,794.0	133,794.0
Permanent Workyears.....	11,114.0	11,889.2	11,368.7	12,540.5	1,171.8
Total Workyears.....	11,457.6	11,890.2	11,751.2	12,540.5	789.3
Research and Development					
Budget Authority.....	$ 202,500.0	$ 237,757.0	$ 229,949.9	$ 249,000.0	$ 19,050.1
Obligations.....	201,325.0	235,581.6	227,878.0	249,521.0	21,643.0
Outlays.....	182,467.0	222,729.0	219,653.0	240,592.0	20,939.0
Abatement, Control, and Compliance					
Budget Authority.....	$ 719,625.3	$ 817,076.0	$ 796,914.6	$ 865,300.0	$ 68,385.4
Obligations.....	706,387.0	828,249.2	807,943.0	863,659.0	55,716.0
Outlays.....	623,190.0	783,670.0	775,802.0	832,359.0	56,557.0
Buildings and Facilities					
Budget Authority.....	$ 8,000.0	$ 14,768.0	$ 14,652.0	$ 13,000.0	$ (1,652.0)
Obligations.....	6,592.7	24,543.6	24,723.0	13,000.0	(11,723.0)
Outlays.....	15,118.0	19,453.0	19,436.0	12,942.0	(6,494.0)
Office of Inspector General					
Budget Authority.....	$ 0.0	$ 31,242.3	$ 30,903.3	$ 38,709.0	$ 7,805.7
Obligations.....	0.0	31,242.3	30,903.3	38,709.0	7,805.7
Outlays.....	0.0	18,745.0	18,542.0	30,951.0	12,409.0
Permanent Workyears.....	0.0	310.6	310.6	350.4	39.8
Total Workyears.....	0.0	310.6	310.6	350.4	39.8
Scientific Activities Overseas					
Obligations.....	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0
Outlays.....	49.0	250.0	250.0	250.0	0.0

	Actual 1989	Enacted 1990	Current Estimate 1990	Request 1991	Increase/ Decrease 1991 Req. vs. Current 1990
SUBTOTAL, OPERATING PROGRAMS					
Budget Authority.....	$1,745,125.7	$1,961,869.9	$1,936,417.9	$2,165,709.0	$ 229,291.1
Obligations.....	1,723,079.6	1,980,643.3	1,955,445.4	2,164,589.0	209,143.6
Outlays.....	1,655,268.0	1,878,292.0	1,869,683.0	2,086,888.0	217,205.0
Permanent Workyears.....	11,114.0	12,199.8	11,679.3	12,890.9	1,211.6
Total Workyears.....	11,457.6	12,200.8	12,061.8	12,890.9	829.1
Hazardous Substance Superfund					
Budget Authority.....	$1,410,000.0	$1,550,588.1	$1,530,228.1	$1,740,000.0	$ 209,771.9
Obligations.....	1,543,719.5	1,598,039.3	1,578,322.0	1,740,000.0	161,678.0
Outlays.....	958,195.0	1,328,814.0	1,324,538.0	1,520,333.0	195,795.0
Permanent Workyears.....	2,424.0	2,967.2	3,345.7	3,467.2	121.5
Total Workyears.....	2,796.4	3,467.2	3,467.2	3,467.2	0.0
LUST Trust Fund					
Budget Authority.....	$ 50,000.0	$ 74,822.1	$ 74,097.0	$ 75,000.0	$ 903.0
Obligations.....	50,875.4	78,279.6	77,555.0	75,000.2	(2,554.8)
Outlays.....	32,859.0	35,707.0	35,489.0	49,299.0	13,810.0
Permanent Workyears.....	81.0	91.3	85.7	90.4	4.7
Total Workyears.....	82.4	91.3	91.3	90.4	(0.9)
Construction Grants					
Budget Authority.....	$1,950,000.0	$2,018,225.0	$1,991,720.0	$1,600,000.0	$ (391,720.0)
Obligations.....	2,531,237.0	2,305,233.0	2,305,233.0	1,697,930.0	(607,303.0)
Outlays.....	2,349,827.0	2,363,092.0	2,362,668.0	2,338,857.0	(23,811.0)
Operations, Research and Facilities					
Obligations.....	$ 0.0	$ 50.0	$ 50.0	$ 50.0	$ 0.0
Outlays.....	0.0	250.0	250.0	250.0	0.0
Tolerances Revolving Fund					
Obligations.....	$ 806.7	$ 1,000.0	$ 1,000.0	$ 1,000.0	$ 0.0
Outlays.....	(293.0)	(200.0)	(200.0)	(200.0)	0.0

	Actual 1989	Enacted 1990	Current Estimate 1990	Request 1991	Increase/ Decrease 1991 Req. vs. Current 1990
Misc. Contrib. Funds					
Obligations.....	$ 4.3	$ 10.0	$ 10.0	$ 10.0	$ 0.0
Outlays.....	2.0	10.0	10.0	10.0	0.0
Reregistration & Expedited Processing Revolving Fund					
Obligations.....	$ 5,303.6	$ 33,851.0	$ 33,851.0	$ 18,000.0	$ (15,851.0)
Outlays.....	(16,040.0)	(11,000.0)	(11,000.0)	7,100.0	18,100.0
Permanent Workyears.....	132.0	0.0	148.0	238.5	90.5
Total Workyears.....	33.6	0.0	148.0	238.5	90.5
Reimbursements - S&E					
Obligations.....	$ 15,751.7	$ 20,000.0	$ 19,947.0	$ 20,000.0	$ 53.0
Permanent Workyears.....	67.0	74.0	74.0	74.0	0.0
Total Workyears.....	66.6	74.0	74.0	74.0	0.0
Reimbursements-Superfund					
Obligations.....	$ 6,787.0	$ 30,000.0	$ 29,815.0	$ 30,000.0	$ 185.0
Reimbursements-R&D					
Obligations.....	$ 3,444.3	$ 5,000.0	$ 5,000.0	$ 5,000.0	$ 0.0
Reimbursements-AC&C					
Obligations.....	$ 0.0	$ 0.0	$ 0.0	$ 5,000.0	$ 5,000.0
TOTAL, EPA					
Budget Authority.....	$5,155,125.7	$5,605,505.1	$5,532,463.0	$5,580,709.0	$ 48,246.0
Obligations.....	5,881,009.1	6,052,106.2	6,006,228.4	5,756,579.2	(249,649.2)
Outlays.....	4,979,818.0	5,594,965.0	5,581,438.0	6,002,537.0	421,099.0
Permanent Workyears.....	13,818.0	15,332.3	15,332.7	16,761.0	1,428.3
Total Workyears.....	14,436.6	15,833.3	15,842.3	16,761.0	918.7

Summary of Budget Authority,
Obligations, Outlays, and Workyears
By Media
(dollars in thousands)

	Actual 1989	Enacted 1990	Current Estimate 1990	Request 1991	Increase/ Decrease 1991 Req. vs. Current 1990
Air					
Budget Authority.....	$ 268,368.5	$ 294,000.9	$ 288,924.8	$ 389,791.0	$ 100,866.2
Obligations.....	267,314.6	291,008.6	288,796.0	388,384.0	99,588.0
Outlays.....	268,535.0	290,932.9	289,614.3	385,203.0	95,588.7
Permanent Workyears.....	1,598.9	1,756.9	1,704.3	1,984.6	280.3
Total Workyears.....	1,680.4	1,756.9	1,739.4	1,984.6	245.2
Water Quality					
Budget Authority.....	$ 289,822.2	$ 350,292.2	$ 345,339.5	$ 379,096.5	$ 33,757.0
Obligations.....	285,340.7	355,063.1	350,177.0	378,871.0	28,694.0
Outlays.....	270,382.5	334,643.9	333,127.9	358,749.0	25,621.1
Permanent Workyears.....	2,010.7	2,283.0	2,125.0	2,311.8	186.8
Total Workyears.....	2,142.8	2,284.0	2,215.9	2,311.8	95.9
Drinking Water					
Budget Authority.....	$ 108,264.3	$ 122,399.3	$ 120,796.3	$ 132,637.3	$ 11,841.0
Obligations.....	106,809.6	122,356.1	121,059.0	132,592.0	11,533.0
Outlays.....	111,414.4	124,177.3	123,615.1	133,914.3	10,299.2
Permanent Workyears.....	673.8	766.7	743.9	810.2	66.3
Total Workyears.....	716.0	766.7	768.0	810.2	42.2
Hazardous Waste					
Budget Authority.....	$ 267,576.6	$ 273,787.5	$ 269,296.0	$ 317,144.1	$ 47,848.1
Obligations.....	262,638.4	277,264.3	273,315.0	316,795.0	43,480.0
Outlays.....	253,744.5	264,578.8	263,380.1	307,477.6	44,097.5
Permanent Workyears.....	1,372.2	1,523.0	1,432.9	1,634.7	201.8
Total Workyears.....	1,452.3	1,523.0	1,490.1	1,634.7	144.6
Pesticides					
Budget Authority.....	$ 118,662.1	$ 106,932.2	$ 104,765.7	$ 110,072.7	$ 5,307.0
Obligations.....	117,961.3	106,341.2	104,303.0	110,118.0	5,815.0
Outlays.....	87,286.2	94,978.6	94,548.0	99,856.8	5,308.8
Permanent Workyears.....	795.7	853.3	957.3	1,091.7	134.4
Total Workyears.....	845.3	853.3	990.9	1,091.7	100.8

	Actual 1989	Enacted 1990	Current Estimate 1990	Request 1991	Increase/ Decrease 1991 Req. vs. Current 1990
Radiation					
Budget Authority.....	$ 24,626.9	$ 35,862.8	$ 35,071.5	$ 39,109.7	$ 4,038.2
Obligations.....	24,744.1	35,528.6	34,849.0	38,602.0	3,753.0
Outlays.....	22,383.1	31,472.9	31,330.5	35,040.9	3,710.4
Permanent Workyears.....	184.1	220.2	214.2	240.8	26.6
Total Workyears.....	194.0	220.2	216.8	240.8	24.0
Noise					
Budget Authority.....	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0
Obligations.....	0.0	0.0	0.0	0.0	0.0
Outlays.....	12.2	0.0	0.0	0.0	0.0
Multimedia					
Budget Authority.....	$ 80,339.0	$ 123,625.4	$ 126,861.2	$ 166,419.4	$ 39,558.2
Obligations.....	79,864.2	122,883.2	122,626.0	166,069.0	43,443.0
Outlays.....	66,049.9	115,606.1	115,082.1	153,027.4	37,945.3
Permanent Workyears.....	597.7	773.0	721.1	841.5	120.4
Total Workyears.....	640.9	773.0	742.3	841.5	99.2
Toxic Substances					
Budget Authority.....	$ 144,578.0	$ 158,368.6	$ 155,862.8	$ 113,439.0	$ (42,423.8)
Obligations.....	143,120.0	157,537.5	155,212.0	114,439.0	(40,773.0)
Outlays.....	143,200.2	140,097.6	139,462.9	104,527.4	(34,935.5)
Permanent Workyears.....	815.9	906.6	865.4	886.2	20.8
Total Workyears.....	862.0	906.6	876.1	886.2	10.1
Energy					
Budget Authority.....	$ 54,735.7	$ 33,480.8	$ 32,171.9	$ 14,256.7	$ (17,915.2)
Obligations.....	54,478.9	33,555.0	32,822.0	14,730.0	(18,092.0)
Outlays.....	57,314.6	45,735.0	45,527.6	28,502.8	(17,024.8)
Permanent Workyears.....	62.8	52.4	51.8	30.4	(21.4)
Total Workyears.....	67.2	52.4	51.8	30.4	(21.4)
Management and Support					
Budget Authority.....	$ 380,152.4	$ 423,427.7	$ 418,029.3	$ 477,061.2	$ 59,031.9
Obligations.....	374,215.1	429,639.5	422,916.6	477,307.2	54,390.6
Outlays.....	359,827.4	396,256.0	394,460.5	456,922.8	62,462.3
Permanent Workyears.....	2,700.3	2,996.9	2,943.6	3,209.2	265.6
Total Workyears.....	2,894.3	2,996.9	3,050.7	3,209.2	158.5

	Actual 1989	Enacted 1990	Current Estimate 1990	Request 1991	Increase/ Decrease 1991 Req. vs. Current 1990
Buildings and Facilities					
Budget Authority.....	$ 8,000.0	$ 14,768.0	$ 14,652.0	$ 13,000.0	$ (1,652.0)
Obligations.....	6,592.7	24,543.6	24,723.0	13,000.0	(11,723.0)
Outlays.....	15,118.0	19,543.0	19,436.0	12,942.0	(6,494.0)
Hazardous Substance Superfund					
Budget Authority.....	$1,410,000.0	$1,560,745.0	$1,540,286.0	$1,753,106.4	$ 212,820.4
Obligations.....	1,543,719.5	1,608,194.3	1,588,379.8	1,753,107.0	164,727.2
Outlays.....	958,195.0	1,334,907.0	1,330,631.0	1,530,711.0	200,080.0
Permanent Workyears.....	2,621.5	3,035.0	3,413.5	3,552.0	138.5
Total Workyears.....	2,799.4	3,535.0	3,535.0	3,552.0	17.0
LUST Trust Fund					
Budget Authority.....	$ 50,000.0	$ 74,822.0	$ 74,097.0	$ 75,575.0	$ 1,478.0
Obligations.....	50,875.4	78,279.6	77,555.0	75,575.0	(1,980.0)
Outlays.....	32,859.0	35,707.0	35,489.0	49,645.0	14,156.0
Permanent Workyears.....	77.7	91.3	85.7	93.9	8.2
Total Workyears.....	82.4	91.3	91.3	93.9	2.6
Construction Grants					
Budget Authority.....	$1,950,000.0	$2,018,225.0	$1,991,720.0	$1,600,000.0	$ (391,720.0)
Obligations.....	2,531,237.0	2,305,233.0	2,305,233.0	1,697,930.0	(607,303.0)
Outlays.....	2,349,827.0	2,363,092.0	2,362,668.0	2,338,857.0	(23,811.0)
Operations, Research and Facilities					
Obligations.....	$ 0.0	$ 50.0	$ 50.0	$ 50.0	$ 0.0
Outlays.....	0.0	250.0	250.0	250.0	0.0
Tolerances Revolving Fund					
Obligations.....	$ 806.7	$ 1,000.0	$ 1,000.0	$ 1,000.0	$ 0.0
Outlays.....	(293.0)	(200.0)	(200.0)	(200.0)	0.0
Misc. Contrib. Funds					
Obligations.....	$ 4.3	$ 10.0	$ 10.0	$ 10.0	$ 0.0
Outlays.....	2.0	10.0	10.0	10.0	0.0

	Actual 1989	Enacted 1990	Current Estimate 1990	Request 1991	Increase/ Decrease 1991 Req. vs. Current 1990
Reregistration & Expedited Processing Revolving Fund					
Obligations.....	$ 5,303.6	$ 33,851.0	$ 33,851.0	$ 18,000.0	$ (15,851.0)
Outlays.....	(16,040.0)	(11,000.0)	(11,000.0)	7,100.0	18,100.0
Reimbursements - S&E					
Obligations.....	$ 15,751.7	$ 20,000.0	$ 19,947.0	$ 20,000.0	$ 53.0
Permanent Workyears.....	64.9	74.0 **	74.0 **	74.0	0.0
Total Workyears.....	66.6	74.0 **	74.0 **	74.0	0.0
Reimbursements-Superfund					
Obligations.....	$ 6,787.0	$ 30,000.0	$ 29,815.0	$ 30,000.0	$ 185.0
Reimbursements-R&D					
Obligations.....	$ 3,444.3	$ 5,000.0	$ 5,000.0	$ 5,000.0	$ 0.0
Reimbursements-AC&C					
Obligations.....	$ 0.0	$ 0.0	$ 0.0	$ 5,000.0	$ 5,000.0
TOTAL, EPA					
Budget Authority.....	$5,155,125.7	$5,605,505.0 *	$5,532,463.0 *	$5,580,709.0	48,246.0
Obligations.....	5,881,009.1	6,052,106.2 *	6,006,228.4 *	5,756,579.2	(249,649.2)
Outlays.....	4,979,818.0	5,594,965.0 *	5,581,438.0 *	6,002,537.0	421,099.0
Permanent Workyears.....	13,576.2	15,332.3	15,332.7	16,761.0	1,428.3
Total Workyears.....	14,443.6	15,833.3	15,842.3	16,761.0	918.7

* Enacted 1990 BA and Obligation totals include $14,767.6 in undistributed funds.
1990 Current Estimate BA and Obligation totals include $14,589.0 in undistributed funds.
Enacted 1990 Outlays include $14,176.9/1990 Current Estimate outlays include $14,005.0 in undistrubuted funds.

** Includes 12 FTE for Ocean Dumping (10 in Water Quality and 2 in Multimedia).

ENVIRONMENTAL PROTECTION AGENCY

Object Classification
Direct Obligations
(dollars in thousands)

	Actual 1989	Current Estimate 1990	Request 1991	Increase/ decrease 1991 Req. vs Current 1990
Salaries and Expenses				
Personnel Services.....	$ 535,957.0	$ 556,234.0	$ 580,051.0	$ 23,817.0
Other objects:				
21.0 Travel and transportation of persons.....	21,366.0	25,747.0	32,475.0	6,728.0
22.0 Transportation of things.	2,139.0	2,378.0	3,603.0	1,225.0
23.1 Rental payments to GSA...	47,540.0	52,849.0	80,087.0	27,238.0
23.2 Rental payments to others	14,767.0	16,416.0	24,877.0	8,461.0
23.3 Communications,utilities, and misc. charges.....	28,697.0	31,902.0	48,344.0	16,442.0
24.0 Printing and reproduction	6,217.0	6,911.0	10,473.0	3,562.0
25.0 Other services.....	92,250.0	109,728.0	123,815.0	14,087.0
26.0 Supplies and materials...	15,480.0	17,209.0	26,078.0	8,869.0
31.0 Equipment.....	39,831.0	44,279.0	67,100.0	22,821.0
32.0 Land and structures.....	57.0	63.0	96.0	33.0
41.0 Grants, subsidies, and contributions.....	4,442.0	246.0	2,647.0	2,401.0
42.0 Insurance, claims, and indemnities.....	32.0	36.0	54.0	18.0
subtotal, other objects...	272,818.0	307,764.0	419,649.0	111,885.0
Total obligations.....	808,775.0	863,998.0	999,700.0	135,702.0

Object Classification
Direct Obligations
(dollars in thousands)

	Actual 1989	Current Estimate 1990	Request 1991	Increase/ decrease 1991 Req. vs Current 1990
Office of the Inspector General				
Personnel Services.....	0.0	13,921.0	14,920.0	999.0
Other objects:				
21.0 Travel and transportation of persons.....	0.0	1,806.0	2,484.0	678.0
23.1 Rental payments to GSA...	0.0	2,197.0	4,244.0	2,047.0
23.3 Communications,utilities, and misc. charges.....	0.0	1,970.0	3,805.0	1,835.0
25.0 Other services.....	0.0	11,009.0	13,256.0	2,247.0
subtotal, other objects...	0.0	16,982.0	23,789.0	6,807.0
Total obligations (OIG)....	0.0	30,903.0	38,709.0	7,806.0
Research and Development				
24.0 Printing and reproduction	$ 194.0	$ 0.0	$ 0.0	$ 0.0
25.0 Other services.....	130,494.0	136,273.0	150,339.0	14,066.0
31.0 Equipment.....	3,589.0	11,600.0	11,600.0	0.0
41.0 Grants, subsidies, and contributions.....	67,048.0	80,005.0	87,582.0	7,577.0
Total obligations.....	201,325.0	227,878.0	249,521.0	21,643.0

Object Classification
Direct Obligations
(dollars in thousands)

	Actual 1989	Current Estimate 1990	Request 1991	Increase/ decrease 1991 Req. vs Current 1990
Abatement, Control, and Compliance				
21.0 Travel and transportation of persons.....	$ 295.0	$ 641.0	$ 750.0	$ 109.0
22.0 Transportation of things.	3.0		21.0	21.0
23.3 Communications,utilities, and misc. charges.....	29.0	2.0	206.0	204.0
24.0 Printing and reproduction	240.0	19.0	1,701.0	1,682.0
25.0 Other services.....	317,038.0	411,803.0	404,268.0	(7,535.0)
26.0 Supplies and materials...	64.0	5.0	454.0	449.0
31.0 Equipment.....	1,555.0	121.0	11,021.0	10,900.0
41.0 Grants, subsidies, and contributions.....	387,163.0	395,352.0	445,238.0	49,886.0
Total obligations.....	706,387.0	807,943.0	863,659.0	55,716.0
Buildings and Facilities				
21.0 Travel and transportation of persons.....	$ 91.0	$ 213.0	$ 235.0	$ 22.0
25.0 Other services.....	4,971.0	18,873.0	12,765.0	(6,108.0)
26.0 Supplies and materials...	6.0			0.0
32.0 Land and structures.....	1,524.0	5,637.0		(5,637.0)
Total obligations (B&F)....	6,592.0	24,723.0	13,000.0	(11,723.0)

Object Classification
Direct Obligations
(dollars in thousands)

	Actual 1989	Current Estimate 1990	Request 1991	Increase/ decrease 1991 Req. vs Current 1990
Hazardous Substance Superfund				
Personnel Services.....	$ 123,598.0	$ 138,546.0	$ 143,100.0	$ 4,554.0
Other objects:				
21.0 Travel and transportation of persons.....	9,916.0	11,808.0	11,757.0	(51.0)
22.0 Transportation of things.	596.0	739.0	1,358.0	619.0
23.1 Rental payments to GSA...	11,510.0	14,264.0	26,218.0	11,954.0
23.2 Rental payments to others	2,458.0	3,046.0	5,599.0	2,553.0
23.3 Communications,utilities, and misc. charges.....	6,922.0	8,578.0	15,767.0	7,189.0
24.0 Printing and reproduction	1,019.0	1,263.0	2,321.0	1,058.0
25.0 Other services.....	1,045,364.0	1,020,238.0	1,131,167.0	110,929.0
26.0 Supplies and materials...	3,781.0	4,686.0	8,612.0	3,926.0
31.0 Equipment.....	18,714.0	23,192.0	42,627.0	19,435.0
32.0 Land and structures.....	5.0	6.0	11.0	5.0
41.0 Grants, subsidies, and contributions.....	269,056.0	300,536.0	300,536.0	0.0
42.0 Insurance, claims, and indemnities.....	2.0	2.0	5.0	3.0
subtotal, other objects...	1,369,343.0	1,388,358.0	1,545,978.0	157,620.0
Subtotal direct obligations..	1,492,941.0	1,526,904.0	1,689,078.0	162,174.0
ALLOCATION ACCOUNTS				
Personnel Services.....	12,448.0	12,605.0	12,483.0	(122.0)
Other objects:				
21.0 Travel and transportation of persons.....	1,743.0	1,765.0	1,748.0	(17.0)
22.0 Transportation of things.	93.0	94.0	93.0	(1.0)
23.1 Rental payments to GSA...	57.0	58.0	57.0	(1.0)
23.3 Communications,utilities, and misc. charges.....	350.0	354.0	351.0	(3.0)
24.0 Printing and reproduction	708.0	717.0	710.0	(7.0)
25.0 Other services.....	30,066.0	30,444.0	30,151.0	(293.0)
26.0 Supplies and materials...	310.0	314.0	311.0	(3.0)
31.0 Equipment.....	2,632.0	2,665.0	2,639.0	(26.0)
41.0 Grants, subsidies, and contributions.....	2,372.0	2,402.0	2,379.0	(23.0)
subtotal, allocation accts.	50,779.0	51,418.0	50,922.0	(496.0)
Reimbursable obligations.....	24,327.0	29,815.0	30,000.0	185.0
Total obligations.....	1,568,047.0	1,608,137.0	1,770,000.0	161,863.0

Object Classification
Direct Obligations
(dollars in thousands)

	Actual 1989	Current Estimate 1990	Request 1991	Increase/ decrease 1991 Req. vs Current 1990
LUST Trust Fund				
Personnel Services.....	$ 3,686.0	$ 2,204.0	$ 2,300.0	$ 96.0
Other objects:				
21.0 Travel and transportation of persons.....	256.0	459.0	955.0	496.0
22.0 Transportation of things.	14.0	17.0	27.0	10.0
23.1 Rental payments to GSA...	502.0	626.0	969.0	343.0
23.2 Rental payments to others	75.0	94.0	145.0	51.0
23.3 Communications,utilities, and misc. charges.....	85.0	106.0	164.0	58.0
24.0 Printing and reproduction	53.0	66.0	102.0	36.0
25.0 Other services.....	3,524.0	3,782.0	3,972.0	190.0
26.0 Supplies and materials...	47.0	59.0	91.0	32.0
31.0 Equipment.....	317.0	395.0	612.0	217.0
41.0 Grants, subsidies, and contributions.....	42,316.0	69,747.0	65,663.0	(4,084.0)
subtotal, other objects...	47,189.0	75,351.0	72,700.0	(2,651.0)
Total obligations (LUST)...	50,875.0	77,555.0	75,000.0	(2,555.0)

ENVIRONMENTAL PROTECTION AGENCY

Permanent Positions by Grade

SALARIES AND EXPENSES

Grades	Actual 1989	Current Estimate 1990	Estimate 1991
Executive Level II	1	1	1
Executive Level III	1	1	1
Executive Level IV	7	8	9
Subtotal	9	10	11
ES-6	7	8	9
ES-5	36	38	43
ES-4	87	90	99
ES-3	65	67	74
ES-2	15	16	18
ES-1	15	16	18
Subtotal	225	235	261
GS-17	1	1	1
GS-16	10	10	11
GS/GM-15	699	716	790
GS/GM-14	1,409	1,439	1,582
GS/GM-13	2,101	2,144	2,360
GS-12	2,079	2,121	2,335
GS-11	1,080	1,100	1,208
GS-10	66	68	75
GS-9	767	786	867
GS-8	206	212	235
GS-7	859	880	971
GS-6	514	527	581
GS-5	552	566	625
GS-4	236	242	267
GS-3	42	43	48
GS-2	11	11	13
Subtotal	10,632	10,866	11,969
Positions established by act of July 1, 1974 (42 U.S.C. 207):			
Director Grade 06, $33,880 to $58,525	47	49	54
Senior Grade 05, $27,094 to $47,750	93	96	107
Full Grade 04, $22,842 to $39,931	38	40	45
Assistant grade 03, $21,226 to $34,535	6	7	9
Subtotal	184	192	215
Positions established by act of November 16, 1977 (42 U.S.C. 201) compensation for which is not to exceed the maximum payable for a GS-18	14	15	17
Ungraded	50	51	56
TOTAL PERMANENT POSITIONS . .	11,114	11,369	12,529

ENVIRONMENTAL PROTECTION AGENCY
Permanent Positions by Grade

OFFICE OF THE INSPECTOR GENERAL

Grades	Actual 1989	Current Estimate 1990	Estimate 1991
Executive Level V	...	1	1
ES-5	...	1	1
ES-4	...	3	3
ES-3	...	2	2
Subtotal	...	6	6
GS/GM-15	...	20	23
GS/GM-14	...	40	45
GS/GM-13	...	80	91
GS-12	...	61	69
GS-11	...	20	23
GS-10	...	2	2
GS-9	...	19	21
GS-8	...	3	3
GS-7	...	35	39
GS-6	...	8	9
GS-5	...	7	8
GS-4	...	7	8
GS-3	...	1	1
GS-2	...	1	1
Subtotal	...	304	343
TOTAL PERMANENT POSITIONS . .	...	311	350

ENVIRONMENTAL PROTECTION AGENCY
Permanent Positions by Grade

HAZARDOUS SUBSTANCE SUPERFUND

Grades	Actual 1989	Current Estimate 1990	Estimate 1991
ES-5	1	2	2
ES-4	8	11	11
ES-3	8	11	11
ES-2	4	6	6
ES-1	1	2	2
Subtotal	22	32	32
GS/GM-15	85	117	121
GS/GM-14	200	276	286
GS/GM-13	549	758	786
GS-12	641	881	913
GS-11	281	388	403
GS-10	1	2	2
GS-9	129	178	184
GS-8	12	17	18
GS-7	143	197	205
GS-6	84	116	120
GS-5	153	211	219
GS-4	97	134	139
GS-3	8	11	11
GS-2	1	2	2
Subtotal	2,384	3,288	3,409
Positions established by act of July 1, 1974 (42 U.S.C. 207):			
Director Grade 06, $33,880 to $58,525	7	10	10
Senior Grade 05, $27,094 to $47,750	5	7	7
Full Grade 04, $22,842 to $39,931	4	6	6
Assistant grade 03, $21,226 to $34,535	2	3	3
Subtotal	18	26	26
TOTAL PERMANENT POSITIONS	2,424	3,346	3,467

ENVIRONMENTAL PROTECTION AGENCY
Permanent Positions by Grade

LEAKING UNDERGROUND STORAGE TANK (LUST)

Grades	Actual 1989	Current Estimate 1990	Estimate 1991
GS/GM-15	3	3	3
GS/GM-14	4	4	4
GS/GM-13	18	19	20
GS-12	24	27	29
GS-11	16	17	18
GS-9	7	7	7
GS-8	1	1	1
GS-7	2	2	2
GS-6	1	1	1
GS-5	3	3	3
GS-4	2	2	2
TOTAL PERMANENT POSITIONS . .	81	86	90

ENVIRONMENTAL PROTECTION AGENCY
Permanent Positions by Grade

FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT
(FIFRA REVOVLING FUND)

Grades	Actual 1989	Current Estimate 1990	Estimate 1991
GS/GM-15	4	4	6
GS/GM-14	14	16	26
GS/GM-13	18	20	32
GS-12	17	19	31
GS-11	20	22	36
GS-9	28	33	52
GS-8	2	2	3
GS-7	17	19	31
GS-6	3	3	5
GS-5	5	6	10
GS-4	3	3	5
GS-3	1	1	2
TOTAL PERMANENT POSITIONS . .	132	148	239

ENVIRONMENTAL PROTECTION AGENCY
Permanent Positions by Grade

REIMBURSABLES
(SALARIES AND EXPENSES)

Grades	Actual 1989	Current Estimate 1990	Estimate 1991
GS/GM-15	4	4	4
GS/GM-14	3	3	3
GS/GM-13	9	10	10
GS-12	8	9	9
GS-11	9	10	10
GS-10	3	3	3
GS-9	8	9	9
GS-8	2	2	2
GS-7	8	10	10
GS-6	1	1	1
GS-5	6	7	7
Subtotal	61	68	68
Positions established by act of July 1, 1974 (42 U.S.C. 207)			
Director grade 06, $33,880 to $58,525	4	4	4
Senior grade 05, $27,094 to $47,750	1	1	1
Full grade 04, $22,842 to $39,931	1	1	1
Subtotal	6	6	6
TOTAL PERMANENT POSITIONS . .	67	74	74

ENVIRONMENTAL PROTECTION AGENCY

Average Grade and Salary

Appropriation/Pay Plan	Actual 1989	Current Estimate 1990	Estimate 1991
Salaries and Expenses			
Average ES Salary	$75,632	$78,355	$81,176
Average GS/GM Grade	10.9	10.9	10.9
Average GS/GM Salary . . .	$38,869	$40,268	$41,718
Average Salary of Ungraded Positions	$14,002	$14,506	$15,028
Office of the Inspector General			
Average ES Salary	...	$76,519	$79,274
Average GS/GM Grade	...	11.2	11.3
Average GS/GM Salary . . .	...	$39,682	$41,111
Superfund			
Average ES Salary	$74,768	$77,460	$80,248
Average GS/GM Grade	10.8	10.8	10.8
Average GS/GM Salary . . .	$36,545	$37,861	$39,224
Leaking Underground Storage Tank			
Average GS/GM Grade	11.2	11.3	11.3
Average GS/GM Salary . . .	$37,740	$39,098	$40,505
FIFRA Revloving Fund			
Average GS/GM Grade	10.3	10.2	10.2
Average GS/GM Salary . . .	$32,716	$33,894	$35,114
Reimbursables			
Average GS/GM Grade	10.2	10.1	10.1
Average GS/GM Salary . . .	$35,129	$36,394	$37,704
TOTAL AGENCY AVERAGE			
Average ES Salary	$75,200	$77,445	$80,233
Average GS/GM Grade	10.6	10.7	10.7
Average GS/GM Salary . . .	$36,200	$37,866	$39,229
Average Salary of Ungraded Positions	$14,002	$14,506	$15,028

ENVIRONMENTAL PROTECTION AGENCY
Summary of State Grant Resources
(in thousands of dollars)

	ACTUAL 1989	CURRENT ESTIMATE 1990	REQUEST 1991	INCREASE + DECREASE - 1991 VS 1990
AIR				
Section 105	$101,478.5	$99,181.4	$137,700.0	$38,518.6
WATER QUALITY	76,496.9	119,494.9	117,450.0	(2,044.9)
Section 106	67,472.5	72,599.1	81,700.0	9,100.9
Clean Lakes	9,024.4	8,747.7	0.0	(8,747.7)
Nonpoint Source	0.0	36,933.1	14,250.0	(22,683.1)
Wetlands Program Implementation	0.0	1,215.0	5,000.0	3,785.0
Water Quality Management	0.0	0.0	16,500.0	16,500.0
DRINKING WATER	46,163.1	54,863.4	58,950.0	4,086.6
Public Water Systems Program Grants	33,042.8	39,311.5	47,450.0	8,138.5
Underground Injection Control Program	10,120.3	11,177.8	10,500.0	(677.8)
Special Studies	3,000.0	4,374.1	1,000.0	(3,374.1)
HAZARDOUS WASTE	75,931.7	76,779.1	97,000.0	20,220.9
H.W. Financial Assistance	66,753.0	68,031.7	88,000.0	19,968.3
Underground Storage Tanks	9,178.7	8,747.4	9,000.0	252.6
PESTICIDES	12,906.1	24,593.0	30,303.4	5,710.4
Pesticides Enforcement Grants	8,928.0	12,444.0	15,803.4	3,359.4
Pesticides Program Implementation	3,978.1	12,149.0	14,500.0	2,351.0
RADIATION				
Radon State Grants	0.0	8,972.1	9,000.0	27.9
TOXIC SUBSTANCES				
Toxic Substances Enforcement Grants	2,102.1	3,110.3	5,100.0	1,989.7
SUBTOTAL	$315,078.4	$386,994.2	$455,503.4	$68,509.2
CONSTRUCTION GRANTS	2,531,237.3	1,991,720.0	1,600,000.0	(391,720.0)
TOTAL	$2,846,315.7	$2,378,714.2	$2,055,503.4	($323,210.8)