ENVIRONMENTAL PROTECTION AGENCY

FISCAL YEAR 1973 BUDGET

ENVIRONMENTAL PROTECTION AGENCY

Contents

ENVIRONMENTAL PROTECTION AGENCY

Purpose Statement

The Environmental Protection Agency's budget proposal is presented under three appropriations, as follows:

1. Operations, Research, and Facilities - This appropriation covers the following activities to support a national program of environmental protection and pollution abatement:

a. Research and Development programs to determine the cause-and-effect relationships of environmental pollutants and to develop and demonstrate technological solutions for pollution abatement and control.

b. Abatement and Control programs which provide for development and implementation of environmental standards, monitoring and surveillance of pollution, pollution control planning, financial and technical assistance to State and local pollution control agencies, assistance to other Federal agencies to minimize impact of their activities on the environment, and support of training of personnel engaged in pollution control activities.

c. Enforcement programs to assist State and local agencies and to carry out direct enforcement activities to assure compliance with Federal pollution control standards, permits, and regulations.

d. Facilities programs to provide construction of new EPA facilities and repair, improvement, and alteration of existing EPA facilities.

e. Agency and Regional Management activities to provide both centralized and regional leadership and administrative support for EPA's programs.

2. Construction Grants - This appropriation provides grants to local public agencies for construction of municipal waste water treatment facilities to assist States and localities in attaining and maintaining water quality standards.

3. Scientific Activities Overseas (Special Foreign Currency Program)- This appropriation supports cooperative programs of research and demonstration to find solutions to environmental problems which are of interest to the United States and to cooperating foreign agencies or countries.

Summary of Budget Authority,
Permanent Positions, Man-Years,
and End-of-Year Employment

	1971	1972	1973
Operations, Research, and Facilities			
Budget Authority.....	$299,712,000	$440,520,318	$439,300,000
Permanent Positions....	7,026	8,065	8,526
Man-Years.....	5,202	6,347	7,525
End-of-Year Employment.	5,787	7,818	8,279
Construction Grants			
Budget Authority.....	1,000,000,000	2,000,000,000	2,000,000,000
Permanent Positions....	...	...	...
Man-Years.....	...	...	...
End-of-Year Employment.	...	...	...
Scientific Activities Overseas			
Budget Authority.....	3,500,000	7,000,000	7,000,000
Permanent Positions....	...	...	...
Man-Years.....	...	...	...
End-of-Year Employment.	...	...	...
Revolving Fund			
Budget Authority.....	...	...	...
Permanent Positions....	12	12	51
Man-Years.....	12	12	51
End-of-Year Employment.	12	12	51
Advances and Reimbursements			
Budget Authority.....	...	...	...
Permanent Positions....	152	162	162
Man-Years.....	150	160	160
End-of-Year Employment.	152	162	162
Total, Environmental Protection Agency			
Budget Authority.....	1,303,212,000	2,447,520,318	2,446,300,000
Permanent Positions....	7,190	8,239	8,739
Man-Years.....	5,364	6,519	7,736
End-of-Year Employment.	5,951	7,992	8,492

Summary

	1972	1973	Increase
Operations, Research, and Facilities			
Authorized Positions.....	8,065	8,526	461
Man-Years.....	6,347	7,525	1,178
End-of-Year Employment.....	7,818	8,279	461
Revolving Fund			
Authorized Positions.....	12	51	39
Man-Years.....	12	51	39
End-of-Year Employment.....	12	51	39
Advances and Reimbursements.			
Authorized Positions.....	162	162	...
Man-Years.....	160	160	...
End-of-Year Employment.....	162	162	...
Total			
Authorized Positions.....	8,239	8,739	500
Man-Years.....	6,519	7,736	1,217
End-of-Year Employment.....	7,992	8,492	500

Summary of Available Funds
(in thousands of dollars)

	1971	1972	1973
Operations, Research, and Facilities			
Appropriation	$38,910	$441,400	...
Budget estimate	...	...	$439,300
Transferred from other agencies	250,606	...	...
Transferred to other agencies	-126	-880	...
Not transferred from other agencies	14,428	...	...
Unobligated balance available, start of year	27,850	27,972	59,194
Unobligated balance available, end of year	-27,972	-59,194	...
Unobligated balance lapsing	-5,878	...	...
Total Available	297,818	409,298	498,494
Construction Grants			
Appropriation	...	2,000,000	...
Budget estimate	...	...	2,000,000
Transferred from other agencies	1,000,000	...	...
Unobligated balance available start of year	439,891	211,527	231,027
Unobligated balance available, end of year	-211,527	-231,027	-131,027
Total Available	1,228,364	1,980,500	2,100,000
Scientific Activities Overseas (Special Foreign Currency Program)			
Appropriation	...	7,000	...
Budget estimate	...	...	7,000
Transferred from other agencies	3,500	...	...
Unobligated balance available, start of year	...	795	...
Unobligated balance available, end of year	-795	...	...
Total Available	2,705	7,795	7,000
Total Available, Environmental Protection Agency	1,528,887	2,397,593	2,605,494

ENVIRONMENTAL PROTECTION AGENCY

Operations, Research, and Facilities

Purpose

Five major activities are supported under this appropriation. They are as follows:

1. Research and Development - This activity includes research concerning the effects of pollutants on man and the environment and the processes which influence the movement, dispersion and fate of pollutants; and it includes research and development leading to new and improved analytical methods and instruments for detecting and measuring pollution and to new and improved technology for preventing and controlling pollution. Research and development activities are conducted through grants, contracts, and other agreements with universities, industries, other private commerical firms, non-profit organizations, State and local governments, and other Federal agencies as well as through research and development at EPA's laboratories and field locations.

2. Abatement and Control - This activity includes EPA's pollution control efforts in support of and in cooperation with State and local agencies, as follows: development of environmental standards and related guidelines and regulations; conduct of monitoring and surveillance to keep appraised of pollution conditions; grant support for State and local pollution control planning; direct Federal pollution control planning; grant support for development and operation of State, regional, and local pollution control programs; provision of technical assistance to pollution control agencies and organizations; assistance to other Federal agencies in bringing their facilities into compliance with environmental standards and ensuring that their activities have minimum environmental impact; and support for and conduct of training to improve the skills of pollution control personnel and to increase the supply of trained pollution control manpower.

3. Enforcement - This activity includes EPA's efforts to achieve compliance with environmental standards and regulations in air, water, and pesticides products. Much of the effort is in support of or in cooperation with State and local enforcement programs, such as in enforcement of ambient air quality and air stationary source standards; navigable and interstate water quality standards; and permits under the Rivers and Harbors Act of 1899; while some efforts involve a primarily Federal responsibility, such as in enforcement of air mobile source standards and pesticide product registrations. Enforcement includes such actions as notices of violation, abatement orders, enforcement conferences, civil and criminal court actions, and, in the case of pesticides, recalls and seizures.

4. Facilities - This activity provides for construction of laboratory facilities and alterations, repairs, and improvements to existing facilities.

5. Agency and Regional Management - This activity provides for top-level management of EPA through the Administrator's immediate office and the immediate offices of the Regional Administrators and for administrative support to the program activities through the Office of Planning and Management and its regional counterparts.

	1971	1972	1973
Budget Authority:			
Research and Development.....	$131,167,000	$165,042,818	$165,596,400
Abatement and Control.....	122,068,000	184,428,800	204,664,700
Enforcement.....	8,205,000	20,946,800	28,059,400
Facilities.....	...	28,000,000	1,000,000
Agency and Regional Management	23,844,000	33,701,900	39,979,500
Total Available Budget Authority.....	285,284,000	432,120,318	439,300,000
Employment Reduction Savings..	...	8,400,000	...
Total Budget Authority.....	285,284,000	440,520,318	439,300,000
Manpower Resources			
Permanent Positions.....	7,026	8,065	8,526
Man-Years.....	5,202	6,347	7,525
End-of-Year Employment.....	5,787	7,818	8,279

Operations, Research, and Facilities

Summary of Available Funds
(in thousands of dollars)

	1971	1972	1973
Appropriation.....	$38,910	$441,400	...
Budget estimate.....	...	...	$439,300
Transferred from other agencies	250,606	...	...
Transferred to other agencies..	-126	-880	...
Not transferred from other agencies.....	14,428	...	...
Unobligated balances available, start of year.....	27,850	27,972	59,194
Unobligated balances available, end of year.....	-27,972	-59,194	...
Unobligated balance lapsing....	-5,878	...	...
Total available.....	297,818	409,298	498,494

Operations, Research, and Facilities
Research and Development

Air

Purpose

The Air Research and Development program encompasses (1) research on the effects of air pollutants on man, animals, plants, materials, and the general environment, (2) research on the processes, such as dispersion that affects air pollution,(3) the development of new and improved sampling and analytical methods and instruments for measuring air pollutants, and (4) the development and demonstration of new and improved technology for preventing and controlling air pollution.

The research on pollution effects and processes is directed toward development of adequately protective but economically feasible air quality and emission standards. The scientific information developed by this program provides the basis for establishing and revising such standards. The analytical methods and instrumentation development is focused on providing improved methodology for monitoring air quality and air emissions to enable surveillance of air quality and emission standards. The development of control technology is directed toward providing effective and feasible means for complying with air quality and emission standards.

In short, the Air Research and Development program is a "foundation" program oriented toward producing the scientific knowledge and the tools for regulating, abating, and preventing air pollution.

	1972	1973	Increase or Decrease
Budget Authority			
Pollution processes and effects.....	$23,416,000	$31,065,000	$7,649,000
Pollution control technology.	34,715,418	39,647,000	4,931,582
Total.....	58,131,418	70,712,000	12,580,582
End-of-Year Employment			
Pollution processes and effects.....	310	301	-9
Pollution control technology.	124	124	...
Total.....	434	425	-9
Man-Years, Total.....	320	375	55

Summary of Increases and Decreases

	1972	1973	Change
Pollution Processes and Effects	$23,416,000	$31,065,000	+$7,649,000
Regional air pollution study..	...	4,994,000	+4,994,000

To provide for development of an analytical model for each of three metropolitan areas. Each model will provide for relating air emissions to ambient air quality and air quality standards and thereby enable development of fully-effective, least-cost abatement requirements and strategies.

Pollution effects research....	9,666,500	14,937,200	+5,270,700

To expand epidemiological, controlled human exposure and animal exposure studies to gain improved data on the health effects of air pollutants for the establishment and revision of air quality standards.

Pollution processes research..	7,069,400	6,024,800	-1,044,600

A decrease made possible by the completion in 1972 of certain research on atmospheric processes the results of which will have application in the regional air pollution study (above).

Analytical methods.....	6,680,100	5,109,000	-1,571,100

A decrease in extramural grant and contract work made possible by accomplishments in the development of new and improved sampling and analytical methods and instruments through 1972.

Pollution Control Technology	34,715,418	39,647,000	+4,931,582
Particulate control.....	750,400	2,697,200	+1,946,800

To expand the development of improved technology for controlling the emissions of fine particulate which produce significant health effects.

Sulfur oxides control.....	21,053,518	19,580,200	-1,473,318

An adjustment to the 1972 level of effort which will enable continuation of a program to develop and demonstrate both first-generation and advanced technologies for the control of sulfur oxide emissions and the desulfurization of fuels.

Nitrogen oxides control.....	1,714,100	4,606,100	+2,892,000

To expand development and demonstration of modified combustion processes to achieve improved control of nitrogen oxides emissions to enable compliance with standards by 1975.

	1972	1973	Change
Pollution Control Technology-Continued			
Other pollutants control.....	$435,500	$1,817,700	+$1,382,200

To expand development and demonstration of control technologies for hazardous pollutants including asbestos, mercury, and beryllium.

Land use planning.....	527,100	765,500	+238,400

To accelerate the development of methods and guidelines for alleviating air pollution through proper planning of land use and transportation systems.

Mobile source control.....	10,234,800	10,180,300	-54,500

An adjustment which provides for continuation of the 1972 level of effort in the development and demonstration of three alternative automotive power systems capable of meeting the 1975-1976 automobile emission standards and in the testing and demonstration of other emission control and advanced power systems through the Federal Clean Car Incentive Program.

Research and Development
Air
Pollution Processes and Effects

Justification

1972: $23,416,000
1973: 31,065,000
Change: +7,649,000

	1972	1973	Change
Regional air pollution study.....	...	$4,994,000	+$4,994,000

The Clean Air Act, as amended, requires the development and adoption of State plans for implementation of ambient air quality standards. Among other things, these plans are to set forth emission standards for all significant sources within each designated air quality region based on a determination of the impact that the emission from each source has on air quality of the region. To make such determination requires a complex analysis of the dispersion, mixing, travel, decay, and atmospheric reaction of the pollutants discharged by each source and analyses of the influencing atmospheric processes. From these analyses it is possible to assess the impact that emissions from each and all sources have on air quality at points throughout the region and to develop therefrom the limitations to be placed on individual sources to enable compliance with the ambient air quality standards.

Currently, the methods available for making such analyses and thereby developing implementation plans having a high probability for achieving standards compliance are relatively crude and embody only first-order precision. Although these current methods are deemed adequate for development of the first generation plans to be adopted during 1972, it is quite clear that future growth and concentration of pollution-causing industry and residential and commercial sources and activities will require analytical methods having greater precision to enable effective revision of State implementation plans. To provide such methods, EPA plans to embark on a multi-year regional air pollution study.

Preliminary work for this study was accomplished in 1970 and 1971 but the follow through work as herein proposed had to be deferred in 1972 to meet the many critical, time-constrained requirements of the Clean Air Amendments of 1970. Nevertheless, a significant amount of support research in atmospheric processes and analytical methods development was accomplished in 1972.

An increase of $4,994,000 is requested to initiate the development of an air pollution model for each of three metropolitan areas having different meteorological/air pollution characteristics. Each model will enable the correlation of air emissions with ambient air quality and ambient air quality standards and thereby provide a tool for establishing fully-effective, least-cost abatement strategy for the area and other areas of similar character. The first model will be developed for St. Louis and the others will be started six and 12 months later in two other dissimilar areas. The development of each model will involve a comprehensive source inventory, pollution and

meteorological measurements and data analysis,and model development and verification. These models will be much superior to the techniques now available and used to establish air emission limitations for specific sources and other aspects of abatement strategy.

	1972	1973	Change
Pollution effects research.....	$9,666,500	$14,937,200	+$5,270,700

A vital element of EPA's air program is the air pollution effects research program. The objective of this program is to produce the body of scientific knowledge necessary to support development of adequately protective but not unreasonably restrictive air quality standards. Several years of research by EPA and its predecessor in the air program has provided the body of knowledge on which present primary and secondary ambient air quality standards for particulates, sulfur oxides, nitrogen oxides, hydrocarbons, photochemical oxidants, and carbon monoxide have been set. Even though this body of knowledge has been deemed sufficient to support these standards, it is by no means fully complete. Further work is essential to provide the basis for sustaining or revising present ambient air quality standards so that the Nation might have a set of standards that are fully adequate to protect human health and the environment.

The air pollution effects research program has already made significant progress in eliminating the detrimental effects of air pollution on human health. This has been primarily accomplished by, but not limited to, the Communities Health Effects Surveillance Studies (CHESS), the characterization of emissions from motor vehicle fuels, their additives and their health effects, and the research on biological systems, both human and animal, to assess the effects of air pollutants. The expansion of these efforts in 1973 will increase the base of scientific information presently available so as to provide a better understanding of exposure effects and thereby result in setting or revising standards with greater confidence.

An increase of $5,270,700 is requested to expand the collection of scientific information on the effects of air pollutants on human health and welfare. A series of epidemiological investigations in urban settings, where known exposure to air pollutants exists, will be conducted,expanding on the current CHESS program. In addition, direct studies on human and animal exposures under laboratory conditions along with further studies of human populations exposed to particular kinds of stationary source emissions (power plants, incinerators, etc.) will be conducted. This research expansion in the air health program will provide EPA with scientifically sound data for development and revision of criteria and standards for air pollutants and for appraisal of the effectiveness of environmental standards already promulgated in protecting human health. This health data will also enable the Agency to reduce the true social costs of air pollutant exposure by providing firm quantitative information on the contribution of air pollutants to diseases of major public health importance.

	1972	1973	Change
Pollution processes research.	$7,069,400	$6,024,800	-$1,044,600

Pollution processes research in the air program is an important aspect in trying to understand how various air pollutants impact on man's health and welfare. This research deals with a combination of (1) the processes of dispersion, transformation, and ultimate disposition of pollutants in the atmospheric transfer cycle from source to receptor,and (2) atmospheric chemistry and physics. It is vital in order to describe and predict pollutant concentration distributions ranging from local to global scale, thus enabling development of effective methodologies of environmental resource management for control strategy utilization and long-range planning objectives. Atmospheric chemistry and physics are the basis for pollution control strategies. Knowledge of the details of how pollutants react with each other, with the permanent atmospheric gases, with the sunlight, and with the hydrosphere and biosphere is required. Although there has been much progress in this area, there are still many important aspects of the problem which have not been studied and many others which have been studied but have not yielded a satisfactory understanding.

A decrease of $1,044,600 in this activity has been accomplished through completion in 1972 of the more significant theoretical modeling efforts, model tests, and monitoring and field tests which have direct application to work being conducted under the air pollution effects research program and the regional air pollution study. A base program will be available in 1973 to continue necessary research in order to (1) estimate the relationship between arbitrary distributions of pollutant sources and the resultant air quality; (2) evaluate the impact of air pollutants on weather and climate; (3) provide a description of the roles and interrelationships of atmospheric processes and ecology in effective air, water, and land resource management; and (4) define the chemical and physical production and/or decay or removal of pollutants of importance in the atmosphere.

	1972	1973	Change
Analytical methods.....	$6,680,100	$5,109,000	-$1,571,100

Proper enforcement of air quality standards that have been or will be promulgated under the Clean Air Act requires a capability to determine the concentrations of pollutants in both the ambient air and at the sources of the pollutants. The measurement of pollutants depends on the availability of standardized and calibratible instrumentation and/or methodology for measurement. These methods or instruments must be made available to Federal, State, and local control agencies for routine monitoring of ambient air (for the achievement of the National Ambient Air Quality Standards) or pollution sources (to enforce controls on stationary and mobile source emissions). In addition, these measurement methods, both manual and instrumental, support such special research activities as the CHESS program.

A decrease of $1,571,100 was made possible by a modification in policy to seek greater involvement of the private sector in support of EPA's research and development activities. With the advancement made by EPA in the field of instrumentation and analytical methods development during prior years, it is logical that private industry, given access to this data, can assume a role in further development of some phases of this program. In 1973, the government will continue to invest funds for support of highly sophisticated phases of R&D instrumentation and methodology development which the private sector may not have the expertise to pursue or the desire to invest in.

Research and Development
Air
Pollution Control Technology

Justification

1972:	$34,715,418
1973:	39,647,000
Change:	+4,931,582

	1972	1973	Change
Particulate control.....	$750,400	$2,697,200	+$1,946,800

An important aspect in the prevention and control of air pollution is the development of effective and practical processes, methods, and prototype devices for meeting the National Ambient Air Quality Standards for particulates. Currently, technology is inadequate for the removal of fine particulates of particle sizes two microns or less. Since a substantial part of the physiologically active particulates is concentrated in these fine particulates and since the fine particulates are very slowly removed by natural processes, there is a critical need for R&D to improve present control devices and measures to cope with this fraction of the particulate emissions. Fine particulates are chiefly implicated in health and welfare effects. The objective of the program is to provide the basis for setting new standards for fine particulates should these prove necessary.

During 1972, efforts in this program have consisted of the program planning activities required to attack the problem, maintain cognizance of technology development elsewhere, and accomplish limited theoretical studies.

The expanded effort in 1973 will undertake more in-depth theoretical studies, including mathematical modeling of electrostatic precipitation (ESP), and bench-scale laboratory tests to verify theoretical studies and to gather basic engineering data on fabric filter characterization, wet scrubbing techniques and ESP designs. Through a process of pilot-scale demonstrations on those systems having the greatest commercial potential, users of these devices will have sufficient data for selection, design, cost, and operation of particulate control devices.

An increase of $1,946,800 is requested to (1) expand and accelerate research on wet scrubbing, electrostatic precipitation, and fabric filtration particulate control devices to increase their efficiency and applicability, particularly for the control of fine particulates; (2) characterize and quantify the fine particulate control capability of

conventional control equipment currently being evaluated; and (3) quantify the collectibility of fine particulate and particulate in the presence of difficult-to-handle co-contaminants. The control of fine particulate (chiefly implicated in health and welfare effects) will consider both increasing the efficiency of existing techniques and initiating research on novel approaches to the problem.

	1972	1973	Change
Sulfur oxides control.....	$21,053,518	$19,580,200	-$1,473,318

Approximately 75 percent of sulfur oxide emissions originate from fossil fuels combustion in stationary sources. EPA, in its role of carrying out research and development for the prevention and control of air pollution, includes research and development into new and improved methods for attacking pollutuon from the combustion of fuels. Improved, low-cost techniques having industry-wide application are required for (1) removal of potential air pollutants from fuels prior to combustion; (2) improvement in the efficiency of fuel combustion to reduce the formation of pollutants; and (3) removal of pollutants from flue gases after combustion.

In 1972, development and demonstration of ongoing clean fuels projects will be accelerated. These projects include the mechanical and chemical desulfurization of coal, molten iron combustion which partially burns coarsely ground coal in a molten bed of iron and traps the sulfur, in the form of hydrogen sulfide, in the slag together with coal ash, and the fluidized gasification/desulfurization of residual oil. A second result will be the intensified development and adaptation of flue gas cleaning technology to the industrial source sector. Part of this effort is the Agency commitment to demonstrate six flue-gas treatment techniques, one of which (dry limestone injection) has been completed.

During 1973, efforts will be broadened to achieve (1) product emission control capabilities for industrial and area combustion sources which have a primary effect on ambient air quality; (2) improved, second generation control capabilities for large combustion sources; and (3) control for specific industrial processes which are major emission contributors in specific localities.

A reduction of $1,473,318 has been made to adjust the level of effort associated with sulfur oxides control. This adjustment recognizes a necessary shift in effort resulting from the successful completion of a series of expensive first generation flue gas desulfurization process demonstrations devised for large combustion source application.

	1972	1973	Change
Nitrogen oxides control.....	$1,714,100	$4,606,100	+$2,892,000

The control of nitrogen oxides emissions is an important achievement in solving the health problems of the cities. On a national basis, 65 percent of these emissions are from sources other than motor vehicles. In some air quality regions, complete elimination of all motor vehicles may not reduce nitrogen oxides enough to achieve ambient standards within the time frames set by the Clean Air Act. Control technology for nitrogen oxides is still at an early stage of development. Further work is essential to provide the body of knowledge necessary to advance the state-of-the-art for attainment of ambient air standards in a number of regions.

Previous efforts in this area involved basic research and development of potential aqueous absorbants. Expansion of combustion modification research and development will generate considerable data on combustion kinetics, the practicality of combustion modification and techniques such as flue gas recirculation, staged combustion, and low-excess-air firing. The data will be reduced to specific combustion system hardware through applied research and development utilizing bench, pilot, and demonstration test units to define technical and economic feasibility.

An increase of $2,892,000 is requested to expand combustion modification research and development in two broad areas: (1) field testing and fuels research and development, covering mechanisms and chemistry of NO_x production, and (2) process research and development studies, covering application of theory and field testing findings to specific combustion system hardware.

Other pollutants control.....	435,500	1,817,700	+1,382,200

The Clean Air Act authorizes National Emission Standards for Hazardous Pollutants (NESHAPS), New Source Performance Standards (NSPS), and National Ambient Air Quality Standards (NAAQS). Standards are currently based on the best available technology. Subsequent standard-setting for new pollutants or sources, or revision of current standards, will probably require the development and demonstration of improved control technology by EPA. Currently, there exists little knowledge of technology to control emissions of the most hazardous pollutants such as asbestos, mercury, and beryllium. Better techniques and

information are needed to allow more comprehensive standards to be set for these pollutants.

Preliminary work for this program emphasizes investigations and development of control technology for odors and products of incineration and planning studies for hazardous pollutants. Current technology for controlling emissions of hazardous pollutants (asbestos, mercury, and beryllium) from some sources is limited.

In 1973, the program will be expanded to include investigating at bench-scale, multiple approaches to odor control, and initiating pilot-scale and demonstrations work on control technology for asbestos, mercury, and beryllium.

An increase of $1,382,200 is requested to initiate research and development projects on control technology. These projects will include (1) characterization and quantification of the hazardous pollutant control capability of ongoing or planned control system projects for combustion and industrial processes, and (2) extension and acceleration of studies on specific industries and pollutants in order to quantify the pollutants emitted and the degree of control currently available. The output of these efforts will support more comprehensive standards to be set for hazardous pollutants.

	1972	1973	Change
Land use planning.....	$527,100	$765,500	+$238,400

Recent Federal legislation recognizes the need to control and prevent air pollution through urban and transportation planning actions. The need for this program is to ensure that air pollution control needs are objectively considered in the design and function of urban land use and transportation planning systems. Facets of transportation and land use planning will be investigated and incorporated into the planning guidelines which are issued to the States for their use.

An increase of $238,400 is requested to expand ongoing efforts in formulation and issuance to the States of planning guidelines and methodologies. The following topics will be covered in future guidelines: controlling the air pollution impact of regional growth through land use management; planning multi-model transportation systems; planning, locating, and designing buildings; developing legislation and conducting administrative studies to implement land use; and effecting transportation actions.

	1972	1973	Change
Mobile source control.....	$10,234,800	$10,180,300	-$54,500

A very important aspect of the EPA's air program is the research, development,and demonstration of mobile source pollution control technology. The primary objective of this element is to provide direct proof that an unconventionally-powered low emission vehicle capable of meeting the 1975-1976 emission standards of the Clean Air Act can be produced by the mandatory dates or within a minimum extension of such dates. Several years of research have been devoted to this problem, providing the base of technical data from which has been identified the most promising alternative automotive power systems for meeting the 1975-1976 standards. Further work on such systems is essential to fully develop and commercially demonstrate a practical and mass-produceable low emission power system.

For the gas turbine and Rankine cycle engines, development of low emission combustors was carried out in an attempt to eliminate the principal problem which has blocked several industry-sponsored development efforts. For the stratified charge engine, second-stage prototype demonstration and testing was undertaken with the expectation that preproduction prototype demonstration can begin in 1973. In addition to these projects being conducted under the Advanced Automotive Power Systems (AAPS) program, testing and demonstration was begun on several entries received from private industry under the Federal Clean Car Incentive program (FCCIP). These proposals covered such systems as the diesel, hybrid Rankine cycle, heat engine-electric hybrid, internal combustion with thermal reactor, internal combustion with catalytic reactor, internal combustion with fuel reformer, and internal combustion with thermal coating. Evaluations will continue on any additional entries received under FCCIP.

An adjustment decrease of $54,500 maintains the 1972 level of effort in the development and demonstration of these alternative automotive power systems: the stratified charge, gas turbine, and Rankine cycle.

Operations, Research, and Facilities
Research and Development

Water Quality

Purpose

The Water Quality Research and Development program embodies: (1) research on the effects of water quality on water uses and on animal and aquatic life; (2) research on the processes which influence the movement, dispersion, and fate of water pollutants; (3) the development of new and improved sampling and analytical methods and instrumentation for measuring water quality and effluents; and (4) the development of new and improved technology for abating and preventing water pollution. The effects and processes research is oriented toward development of water quality and effluent standards. The analytical methods and instrumentation development is directed toward providing new and improved techniques for water quality and effluent monitoring and surveillance of standards compliance. The purpose of the control technology development is to provide the Nation with effective and feasible methods for complying with water quality standards and regulations for the abatement and prevention of water pollution. Like the Air Research and Development program, this is a "foundation" program providing the scientific knowledge and the technology for carrying out an effective national water pollution control program.

	1972	1973	Increase or Decrease
Budget Authority			
Pollution processes and effects	$17,564,600	$20,519,400	$2,954,800
Pollution control technology...	33,564,000	30,586,400	-2,977,600
Total.....	51,128,600	51,105,800	-22,800
End-of-Year Employment			
Pollution processes and effects	239	243	4
Pollution control technology...	290	294	4
Total.....	529	537	8
Man-Years, Total.....	418	488	70

Summary of Increases and Decreases

	1972	1973	Change
Pollution Processes and Effects	$17,564,600	$20,519,400	+$2,954,800
Great Lakes research.....	...	4,000,000	+4,000,000

Initiation of a concerted effort to identify and assess the pollution problems of the Great Lakes and to develop effective control measures.

Effects and processes research	14,278,200	13,698,400	-579,800

A decrease in water quality effects and pollution processes research made possible by accomplishments achieved in 1972 and prior years in developing the scientific base for establishment of water quality standards.

Analytical methods.....	3,286,400	2,821,000	-465,400

A decrease made possible by a modification in policy to seek greater involvement of the private sector in research and development of sampling and analytical instrumentation for measuring water quality and effluents.

Pollution Control Technology	33,564,000	30,586,400	-2,977,600
Effluent guidelines.....	500,000	2,450,000	+1,950,000

To expand activities which will provide the information base upon which preferred pollution control technology can be defined and ultimately reflected in effluent guidelines.

Control technology.....	33,064,000	28,136,400	-4,927,600

A decrease made possible by a modification in policy to seek greater involvement at the private sector in development and demonstration of wastewater treatment and control methods.

Research and Development
Water Quality
Pollution Processes and Effects

Justification

1972:	$17,564,600
1973:	20,519,400
Change:	+2,954,800

	1972	1973	Change
Great Lakes research.....	...	$4,000,000	+$4,000,000

The Great Lakes are one of the Nation's most valuable natural resources and as such they merit a high priority in the national effort to control and prevent water pollution. Recognizing this priority, the United States is entering into an agreement with Canada on the control of pollutants discharged into the Great Lakes. In this agreement, the parties will both agree to programs which will make significant progress toward the alleviation and prevention of water quality degradation in the Great Lakes. However, it is recognized that these measures will encompass only programs which can be carried out under present knowledge and available technology; thus, the programs will not be capable of addressing many of the complex water quality problems afflicting the Lakes -- problems such as some aspects of eutrophication and agricultural pollution.

In order to develop a continuing program that will ultimately lead to an attack on the full array of water quality problems which affect the Great Lakes, it will be necessary to carry out an expanded program of research and investigation. Concerning eutrophication, a major source of water degradation throughout the Lakes, there are several areas of required investigation. The most important of these are a determination of the nutrient contributions of agricultural sources and the development or identification of feasible control techniques for these and other nonpoint discharges of nutrient pollutants. A systematic study of the water quality and pollution discharges in the upper Great Lakes is also needed. Finally, a series of planning and demonstration studies is very much needed to find solutions for a variety of difficult water quality problems, for the appropriate abatement actions are not now apparent.

A total of $4,000,000 is required to address these research and investigation needs. Of this amount, $300,000 will fund the upper Great Lakes Study and $200,000 the agricultural pollution study, both of which are in support of the U.S.-Canada agreement. $200,000 will fund EPA participation on the International Joint Commission with Canada. $1,600,000 of the total will be applied to agreements with State and local agencies to develop water pollution control plans and demonstrate new water pollution control methods and techniques, as authorized by Section 15 of the Federal Water Pollution Control Act, as amended. $1,700,000 of the total is to conduct eutrophication studies of the Great Lakes. The purpose of these studies is to determine sources other than point sources of nutrient pollutants and to set forth a solid program for pollution abatement and control for the future.

	1972	1973	Change
Effects and processes research..	$14,278,200	$13,698,400	-$579,800

EPA has over the past few years been deeply involved in research to provide data and pertinent information for the establishment of water quality criteria that will provide a sound scientific basis for setting standards for such stream uses as public water supply, recreation, fish and wildlife propagation, agricultural supply, and industrial purposes. These uses are applicable to freshwater, saltwater, and estuarine areas. In-depth studies have been carried out to determine such parameters as the physical, chemical, biological, microbiological, pesticidal, and radiological effects on water quality when usage involves the areas mentioned above. Related to the effects of various pollutants in water are questions concerning the types, movement, and ultimate fate of pollutants in fresh surface, ground, marine, and large lake waters. Serious deficiencies exist in techniques for tracing pollutants and how they interact within the total ecosystem. This information is needed to relate the concentration and form of pollutants to the size, character, composition, and location of their sources in order to establish effective water quality standards, treatment, and control requirements.

The body of scientific data accumulated in 1972 and prior years has established a very significant base from which critical water quality standards can be derived. This is not to say that the total problem has been solved, since the requirement definitely exists for much more research before the Nation can feel it has control of its life-giving waters. This research will be accomplished in 1973 at a minimum reduction in funding from the 1972 level.

Analytical methods.....	3,286,400	2,821,000	-465,400

Abatement and control of water pollution through a combination of research, standard-setting, and enforcement is dependent upon the knowledge of exactly what chemical and/or biological pollutant is causing the damage. The means must be available to rapidly detect, identify, measure, and trace these pollutants so as to achieve their effective control. Sensors, and the necessary instrumentation to utilize these sensors, must be developed to detect the presence of pollutants and automatically make all pertinent measurements. This is the only practical and economic way of accomplishing the enormous task of sampling and analyzing for pollutants in the bodies of water which are of concern to this Nation.

In the past, most of this program has been accomplished through in-house efforts. A decrease of $465,400 has been made possible by a modification in policy to seek greater involvement of the private sector in instrumentation development; the rationale being to shift the responsibility for instrumentation involving treatment and control to the eventual users.

Research and Development
Water Quality
Pollution Control Technology

Justification

1972:	$33,564,000
1973:	30,586,400
Change:	-2,977,600

	1972	1973	Change
Effluent guidelines.....	$500,000	$2,450,000	+$1,950,000

Permits issued by EPA under the Refuse Act Permit Program (RAPP), will include effluent guidelines which specify the maximum quantity of effluent which may be released. Such guidelines must reflect preferred pollution control technology. Existing contracts are developing reports on the state-of-the-art of control technology for selected industries as a basis for developing effluent guidelines.

An increase of $1,950,000 is requested to expand the activities which provide the base of information upon which preferred pollution control technology can be defined. This includes those programs which characterize industrial control problems and the technological capabilities, both existing and under development, for their solution. The studies will also be used to define research and development needs for improving current technology.

Control technology.....	33,064,000	28,136,400	-4,927,600

The objectives of water pollution control technology are to support the regulatory and standard setting activities of EPA and to develop and demonstrate new engineering technology to achieve more efficient water pollution control. This program is providing new techniques, processes and procedures for technically and economically improving present waste water treatment systems, and developing and demonstrating new techniques and processes for treatment and/or control of water pollution. This involves development of technology to reduce water-borne pollution emanating from municipal, combined sewer, industrial, agricultural, and other sources such as oil and hazardous materials and mining wastes.

A decrease of $4,927,600 is planned reflecting a policy to place greater reliance on the private sector for development of new and improved wastewater treatment control methods. EPA will continue to carry out a base program in 1973 reflected in such on-going research, development, and demonstration projects as full-scale demonstrations of phosphorous removal, oxygen aeration, electrochemical chlorination, and other processes for up-grading municipal waste treatment technology; demonstrations of processes to remove color from Kraft pulp mill wastes,

chemical-biological treatment of joint municipal-industrial wastes and treatment of dye stuff and various organic wastes for industrial waste sources; research on controlling animal feedlot pollution, salinity pollution, and land run-off drainage for agricultural wastes; a reverse-osmosis process for neutralizing acid mine drainage and a self-sealing permeable plug for closing mine entries to control acid mine pollution; and research on removing organic contaminants in the treatment of drinking waters. Cold climate treatment technology will be addressed to completing the demonstration of and preparing the mandated report to the Congress on sanitary waste handling facilities for Alaska Villages. However, the Agency will expect (1) to obtain higher levels of participation by industry in cost-sharing demonstration projects, and (2) greater amounts of private research and development to meet the effluent requirements imposed by Refuse Act waste discharge permits and stipulations set forth in Federal and State enforcement actions. This decrease will be primarily embodied in the industrial, advanced waste treatment, oil and hazardous materials, and mining control technology activities.

Operations, Research, and Facilities
Research and Development

Solid Wastes

Purpose

EPA's research and development efforts in the solid wastes area concentrate on developing economically and environmentally sound methods of solid waste disposal including the perfection of sanitary landfilling and incineration; the development of an implementation plan for the disposal of hazardous materials; and improved understanding of solid waste problems and solutions by analyzing the sensitivity of waste management costs to institutional, system management, and technological change. Furthermore, as provided in the Resource Recovery Act of 1970, resource conservation studies and demonstration projects will be conducted to determine means for recovering materials and energy from solid wastes. The resource recovery demonstrations will be limited to those localities with proven markets for recovered materials and energy.

	1972	1973	Increase or Decrease
Budget Authority			
Pollution control technology	$25,529,800	$10,375,200	-$15,154,600
Total.....	25,529,800	10,375,200	-15,154,600
End-of-Year Employment			
Pollution control technology	65	65	...
Total.....	65	65	...
Man-Years, Total.....	59	61	2

Summary of Increases and Decreases

	1972	1973	Change
Pollution Control Technology	$25,529,800	$10,375,200	-$15,154,600

Reflects reorientation of the solid waste program from heavy emphasis on technology development to greater emphasis on technical assistance, market studies, systems demonstrations, and other efforts directed to overcoming the institutional barriers to proper solid wastes management. This decrease does not reflect the estimated carry-over of $13,500,000 of 1971-1972 funds for the demonstration of resource recovery systems.

Research and Development
Solid Wastes
Pollution Control Technology

Justification

1972:	$25,529,800
1973:	10,375,200
Change:	-15,154,600

	1972	1973	Change
Pollution control technology....	$25,529,800	$10,375,200	-$15,154,600

The solid waste program is shifting its emphasis from technology development to the upgrading of current solid waste management practices by assisting State and local agencies to overcome the problems of high cost and environmentally offensive disposal practices. Efforts will be directed toward evaluation and demonstration of municipal collection and storage systems, alternate transportation and waste reduction systems, and methods to control gas and water pollution associated with landfills. Support will be given to from 18 to 20 demonstrations of solid waste management systems at the State and regional level, emphasizing new institutional and financial arrangements. This request will be in addition to a carry-over of $13.5 million from previous years that will be used to support a total of four resource recovery demonstrations planned for 1972 and 1973.

Efforts in 1972 include research, development, and demonstration of new and improved technology for the collection, transportation, processing and disposal of municipal solid waste. Included are projects for the demonstration and evaluation of automated collection equipment, investigation of alternate waste transportation systems, evaluation of new combustion techniques, development of improved materials separation technology as an aid to resource recovery, and the demonstration of effective sanitary landfill management practices under a variety of climatic and geographic conditions. Also being undertaken are projects for development and demonstration of methods to recover energy and/or materials from solid wastes. These include demonstration of a pilot-scale material recovery plant which separates paper fiber, ferrous metals, and glass from municipal refuse and converts it into reusable, recyclable materials; demonstration of recovery of energy from the use of groundup refuse as a supplement to boiler fuel for producing steam-generated electricity; and demonstration of a system that utilizes hot gases directly to generate electricity.

In 1973, under the revised program strategy of applying existing proven technology and management practices to upgrade community systems, efforts to develop new technology will be reduced. However, selective increases are planned to initiate the demonstration of solid waste management systems. Another selective increase will support studies mandated by Section 205 of the 1970 Resource Recovery Act. These will be designed to improve knowledge of and ability to influence demand for resources that would result from recovery technology before investing heavily in new technical development. Studies required by the Act include a comprehensive analysis and evaluation of the feasibility of various tax and other economic incentives or disincentives, subsidies, depletion allowances, capital gains benefits, etc., to promote the recycling of solid waste materials and/or the reduced generation of solid wastes. Studies contemplated for 1972 will consider means to create demand for waste-based raw materials and other waste materials and products through fiscal mechanisms and the economic and environmental impact of "virgin" versus waste material utilization. Five to ten case studies of local market opportunities for recovered wastes will be initiated. Also planned for 1973 is continuation of two of the resource recovery technology demonstrations initiated in 1972 and initiation of two additional ones. These demonstrations will involve two to four year projects supported by Federal grants authorized under Section 208 (1970 Resource Recovery Act). Each participating municipality will provide up to 50 percent of the cost of the demonstration. The emphasis will be on some form of energy recovery; at least one system will feature material recovery of municipal waste or a special waste, such as incinerator residue or abandoned vehicles.

The decrease of $15,154,600 reflects the reorientation from technology development to improvement of solid waste management practices and omission of a request for funds for demonstration of resource recovery systems under Section 208 of the Resource Recovery Act of 1970. The carry-over funds from prior years will be adequate to support this latter activity.

Operations, Research, and Facilities
Research and Development

Pesticides

Purpose

EPA conducts an extensive research program on pesticides in the environment to determine more precisely the effects on human, animal, and aquatic life. A variety of clinical and behavioral studies are needed to determine the effects of various chemicals on particular organs, metabolic reactions, reproduction, and behavioral responses. Laboratory toxicological studies involving such activities as bioassays of aquatic animals and organisms are also necessary to determine both acute and chronic toxic effects of pesticides on freshwater and saltwater life. This effort is vital in providing knowledge of the levels and pathways of pesticide contamination and in supporting such other related programs as pesticide label registration, especially since too little is known about the toxic hazards of most pesticide chemicals upon living matter. The program also includes research on new and improved pest control methods to further the search for environmentally safe alternative control techniques. This work is carried out in cooperation with the Department of Agriculture and the National Science Foundation.

	1972	1973	Increase or Decrease
Budget Authority			
Pollution processes and effects	$3,050,400	$3,115,600	$65,200
Pollution control technology	900,000	1,800,000	900,000
Total	3,950,400	4,915,600	965,200
End-of-Year Employment			
Pollution processes and effects	109	120	11
Pollution control technology	...	...	...
Total	109	120	11
Man-Years, Total	96	109	13

Summary of Increases and Decreases

	1972	1973	Change
Pollution Processes and Effects	$3,050,400	$3,115,600	+$65,200

An adjustment to provide for the continuation of the 1972 level of effort in research on the effects of pesticides on human health, animal well-being, and aquatic life.

Pollution Control Technology	900,000	1,800,000	+900,000
Pest control methods.....	900,000	1,800,000	+900,000

To expand research on the development of environmentally safe alternative pest control methods.

Research and Development
Pesticides
Pollution Processes and Effects

Justification

1972:	$3,050,400
1973:	3,115,600
Change:	+65,200

	1972	1973	Change
Pollution processes and effects.....	$3,050,400	$3,115,600	+$65,200

A continuing program of research on the effects of pesticides and their metabolites on human health, and animal and aquatic life is essential for the support of EPA's other pesticide programs: pesticide-label registration, residue tolerance setting, and technical assistance to State, local, and other Federal agencies. Far too little is known about the toxic hazards of most pesticide chemicals both before and after their application. Much needs to be learned about the health effects to crop workers who come into contact with foliage sprayed with pesticide chemicals. Also, more needs to be known about the hazards of improper disposal of pesticide containers and waste chemicals. These are but a few of the areas which require improved knowledge through continuing research.

An increase of $65,200 is requested for 1973 to provide for an increase in personnel to strengthen the intramural research aspects of the program. Otherwise, a continuing-level program is proposed for 1973. This will include the continuation of controlled animal exposure studies using primates and rats as test animals. A variety of clinical and behavioral studies will be continued to determine the effects of various chemicals on particular organs, metabolic reactions, reproductions, and behavioral responses. Bioassays with aquatic animals and organisms will also be continued to determine both acute and chronic toxic effects of pesticides on aquatic life. This work will include studies with both freshwater and saltwater ecosystems.

Research and Development
Pesticides
Pollution Control Technology

Justification

1972:	$900,000
1973:	1,800,000
Change:	+900,000

	1972	1973	Change
Pest control methods.....	$900,000	$1,800,000	+$900,000

Increasing awareness of the adverse environmental impact of using chemicals to control pests has shifted the emphasis of research and development to seek alternative strategies for pest control management. Perhaps no environmental problem illustrates more clearly than this one the need for expanded research in an area that encompasses the complex interactions that take place throughout the ecosystem, and the caution that must be exercised to be sure that beneficial changes made by man in one part of the system do not create serious damage in another. It is apparent that safer and better methods must be developed for controlling pests if the possible side effects of such chemicals entering the environment are to be prevented.

An increase of $900,000 is requested to provide for expanded on-going research and demonstration of pest control management techniques. This work will be carried out jointly with the National Science Foundation and the Department of Agriculture and would involve the participation of top university specialists in carrying out contract-supported research on new and improved pest control methods. Some of these possibilities are chemicals that disrupt pest behavior; specific insect diseases and viruses; development of crop plants resistant to insect attack; management of predatory and parasitic insect populations that feed on insect pests; and use of insect attractants to bring insects to traps or to poisons in containers.

Operations, Research, and Facilities
Research and Development

Radiation

Purpose

The Radiation Research and Development program supports research on human exposure to and the health effects of both ionizing and non-ionizing radiation. This work is carried out in support of EPA's radiation standards-setting programs.

	1972	1973	Increase or Decrease
Budget Authority			
Pollution processes and effects	$2,690,100	$2,662,700	-$27,400
Total.....	2,690,100	2,662,700	-27,400
End-of-Year Employment			
Pollution processes and effects	93	92	-1
Total.....	93	92	-1
Man-Years, Total.....	87	86	-1

Summary of Increases and Decreases

	1972	1973	Change
Pollution Processes and Effects	$2,690,100	$2,662,700	-$27,400

An adjustment to provide for continuation of the 1972 level of effort in research on human exposure to and health effects of ionizing and non-ionizing radiation.

Research and Development
Radiation
Pollution Processes and Effects

Justification

1972:	$2,690,100
1973:	2,662,700
Change:	-27,400

	1972	1973	Change
Effects research.....	$2,690,100	$2,662,700	-$27,400

Under the reorganization plan establishing EPA, the Agency assumed Federal authority to set generally applicable environmental radiation standards. In this role, EPA must conduct research on the health impact of radiation from all sources and monitor radiation in the environment.

Proliferation of nuclear power plants requires EPA to provide maximum assurance of safe population exposure to the principle radionuclides such as tritium, krypton, plutonium, and strontium released from nuclear power reactors and fuel reprocessing plants. Present standards for maximum exposure have not been experimentally evaluated. In addition, populations are extensively exposed to electromagnetic radiation from the communications industry. No standard exists for exposure of the general population to these non-ionizing radiations, especially at chronic low-dose levels. Research on molecular, biochemical, genetic, and functional changes induced by electromagnetic radiation exposure must be conducted to provide an adequate base of health effects data for appropriate regulatory action. The knowledge obtained in this program through community and biomedical studies will relate toxicological information to radiation exposures of the population and will provide health effects information for the setting and appraisal of radiation standards.

An adjustment decrease of $27,400 will permit continuation of the 1972 level of effort in radiation effects research and development. In 1972, studies are being conducted to determine the effects of exposure to Iodine 131 from fall out and therapeutic doses, to radon and to Cesium 137 in milk. Fundamental research studies are being conducted on the adverse effects of radiation on cells and on the environmental pathways by which strontium and tritium--two hazardous radionuclides emitted by nuclear reactors and nuclear fuel reprocessing plants--may reach man. Investigation is being conducted on the possible synergistic or additive effects of environmental agents such as viruses, heavy metals such as methyl mercury and cadmium, and chemicals like DDT and NTA on the effects of radiation. Enhancement

or mitigation of radiation effects by these agents must be determined in the establishment or modification of radiation protection guides and standards. Potential nuclear testing activities are under investigation. An understanding of the behavior of selected radionuclides in man's food chain and in his environment is required if adequate nuclear testing criteria and radiation protection standards are to be established. In addition, dose exposure of communities located adjacent to large sources of radionuclides and electromagnetic radiation will be defined and long-term effects of human exposure to ionizing radiation will begin to be documented through epidemiological studies of populations with known high-level exposure.

Operations, Research, and Facilities
Research and Development

Noise

Purpose

The Noise Research and Development program encompasses research on human exposure to noise and on the effects of noise on human health and well-being. These efforts are directed toward porviding the scientific base which could eventually be used for establishing noise standards. The program also includes research on methods to control noise so as to provide the means for abating and preventing noise pollution.

	1972	1973	Increase or Decrease
Budget Authority			
Pollution effects and control technology.....	$196,000	$283,500	$87,500
Total.....	196,000	283,500	87,500
End-of-Year Employment			
Pollution effects and control technology.....	...	...	...
Total.....	...	...	...
Man-Years, Total.....	...	...	...

Summary of Increases and Decreases

	1972	1973	Change
Pollution Effects and Control Technology	$196,000	$283,500	+$87,500
Pollution effects.....	50,000	205,000	+155,000
To expand research on the effects of noise on human health and well-being necessary for the ultimate establishment of standards.			
Pollution control technology..	146,000	78,500	-67,500
A decrease made possible by completion of the required report to the President and the Congress.			

Research and Development
Noise
Pollution Effects and Control Technology

Justification

1972:	$196,000
1973:	283,500
Change:	+87,500

	1972	1973	Change
Pollution effects.....	$50,000	$205,000	+$155,000

In accordance with the Noise Pollution and Abatement Act of 1970, EPA has established a noise program to investigate and study noise and its effect on the public health and welfare. Standards for noise emanating from many processes and products may be established in the near future. Except for hearing loss, the needed health effects information for these standards is inadequate. Behavioral effects are less well documented and the full impact of noise upon stress-related disorders, including cariovascular diseases is unknown. Noise standards based solely upon hearing loss would ignore the potentially costly health effects.

In 1972, an effort was completed to discover, assemble, and organize all existing information on the adverse effects of noise. Also completed was the report to the President and the Congress called for by the Noise Pollution and Abatement Act of 1970.

An increase of $205,000 is requested to initiate research on human exposure to noise and the effects of noise on human health and well-being. Efforts will be directed toward developing the scientific information necessary for ultimately establishing noise standards. On-going efforts will continue on three noise effects studies initiated in 1972: (1) (1) community noise scale development; (2) an individual exposure study; and (3) an economic impact study.

Pollution control technology....	146,000	78,500	-67,500

Sources of noise must be identified and classified in order to develop a basis for establishing criteria for overall noise abatement and control. Such criteria are necessary to support EPA's responsibility under Section 402(c) of the Clean Air Act, as amended, to provide guidance and technical assistance to other Federal agencies in their noise control efforts. Noise sources may be generally classified as construction equipment and operation, transportation vehicles and aircraft, other equipment powered by internal combustion engines, building equipment and appliances, and industrial plants. Little is known of the atmospheric and climatological effects upon attenuation of noise; especially low frequency noise. Research must be conducted to seek new approaches to control noise both at its source and in the propagation path between the source and the receiver. The thrust of this effort will be accomplished through such means as measurement of noise and vibration generation levels, design and application of noise suppression devices and design modification to noise producing sources.

In 1972, also in support of the required report to the President and the Congress a literature search to determine the state-of-the-art of noise control technology was completed.

During 1973, studies will be undertaken to determine the extent to which presently available noise abatement and control technology is being applied to alleviate the sources of noise. Investigations will also be carried out to determine the technology that will be required to develop effective means of suppressing noise at its source and in its path to the receiver.

The decrease of $67,500 reflects an adjustment made possible by the completion of the noise report to the President and the Congress.

Summary of Increases and Decreases

	1972	1973	Change
Pollution Processes and Effects	$4,626,000	$6,349,600	+$1,723,600
Implementation research.....	558,700	1,696,600	+1,137,900

To expand the development of: (1) basic information and analytical methods to be used in performing cost/effectiveness analyses in the development of standards, regulations, and abatement strategies, and (2) systems approach in evaluating environmental and ecological impacts of pollution and in forecasting the impact of future technological development.

Environmental studies research.	67,300	653,000	+585,700

To expand the development of methods for long-range forecasting of environmental quality and for evaluating the impact of environmental actions upon society as a whole.

National Center for Toxicological Research.....	4,000,000	4,000,000	...

To continue joint participation with the Food and Drug Administration in operation of the National Toxicological Research Center at Pine Bluff, Arkansas, and in carrying out basic toxicological research at the Center.

Pollution Control Technology	588,000	1,106,200	+518,200
Technology transfer.....	588,000	1,106,200	+518,200

To expand the preparation of design manuals, technical bulletins and other materials and the conduct of seminars to promote the use and application of new and improved pollution control technology developed and/or demonstrated through the research efforts of EPA and others.

Research and Development
Interdisciplinary
Pollution Processes and Effects

Justification

1972:	$4,626,000
1973:	6,349,600
Change:	+1,723,600

	1972	1973	Change
Implementation research.....	$558,700	$1,696,600	+$1,137,900

The core of EPA's role in combating environmental pollution is the development of standards, regulations, and abatement strategies. The Agency must have the capability for assessing cost/effectiveness for the proper specification of these standards, regulations, and control strategies. As more highly technical standards and complex regulations are issued by EPA, the task of determining the appropriate emissions and ambient reduction to minimize environmental damage becomes more difficult. An important ingredient in the EPA environmental pollution control planning strategies is the cost and effect to the Nation of such pollution. Only limited in-depth work has been done utilizing a systems approach to evaluate the environmental and ecological impacts of pollution. In addition, another important aspect involves consideration of the impact of future environmental technological development on the Nation. We need to ensure that non-polluting technological developments are favored. EPA must be in a position to be able to forecast such impacts in terms of the cost and effects of pollution on the country as well as the possible costs of pollution control.

An increase of $1,137,900 is requested to expand the on-going implementation research program and provides for development of: (1) improved analytical methods required to perform cost/benefit and cost/effectiveness studies related to standards research and ecological impacts of human activities; (2) increased standards research by expanding the Regional Air Pollution Study of St. Louis to determine the least-cost strategy for meeting air quality standards and determining the feasibility of integrating the standard setting procedures for each media; (3) analysis to determine the relative benefits and costs of pesticides regulations; (4) increased research efforts in the ecological impact area in support of Agency reviews of environmental impact statements by developing reproducible measures of environmental quality and methods for efficient data collection and analysis; and (5) research in greater depth on the cost and benefits of environmental improvements, to support the cost of Clean Air and Water reports, with improved methodology and interpretation of data on cost and benefits.

	1972	1973	Change
Environmental studies research.	$67,300	$653,000	+$585,700

Environmental management and policy has historically focused on specific, limited problem areas and on the direct, short-term effects of pollutants upon the physical and biological environment. Little attention has been given to developing the tools for long-range forecasting of environmental quality or for evaluating the impact of environmental actions upon society as a whole.

Environmental studies research is concerned with developing a comprehensive view of the environment so that, through research, environmental management and policy may be improved. The long-range focus of the program will be directed toward the development, evaluation, and use of forecasting methodologies. Also involved will be study of the implication of institutional change on the environment and the impacts of environmental actions on the society at-large, including its institutions.

An increase of $585,700 is requested to expand the environmental studies research program that was initiated during late 1972. In 1973 the program will start a number of activities in areas such as long-range impacts on the environment, institutional and policy research, and alternative futures.

	1972	1973	Change
National Center for Toxicological Research....	$4,000,000	$4,000,000	...

The National Center for Toxicological Research (NCTR) is being developed jointly by the Food and Drug Administration and EPA as a national facility to study the long-term effects of low doses of chemical toxicants. Past research efforts associated with chemical toxicants and their effects on man and the environment have been oriented toward investigation of highly concentrated doses. Concern has arisen in the scientific community regarding the possibility that much more severe damage to man and the environment may be occurring through low dose exposure to chemical toxicants over a long period of time. Research must be undertaken to evaluate such cumulative, low-dosage effects.

There is no request for an increase of funds for this effort in 1973. During 1971 and 1972, EPA has participated with the FDA in converting the facilities made available by the phase-out of biological

warfare efforts at the Army's Pine Bluff Arsenal. Demilitarization of this facility should be completed early in 1972. In 1973, testing will be initiated to study the biological effects of potentially toxic chemical substances found in man's environment. Research projects will be undertaken to: (1) determine the adverse health effects resulting from long term, low-dose exposure to chemical toxicants; (2) determine the metabolic processes for chemical toxicants in animal organisms; (3) develop improved methodologies for evaluating the safety of chemical toxicants; and (4) develop scientific research data that will facilitate the extrapolation of findings from animals to man.

Research and Development
Interdisciplinary
Pollution Control Technology

Justification

1972:	$588,000
1973:	1,106,200
Change:	+518,200

	1972	1973	Change
Technology transfer.....	$588,000	$1,106,200	+$518,200

The successful completion of a research, development, and demonstration project does not necessarily mean that the end item or process will automatically find its way to proper application in controlling pollution. An avenue must be available to funnel the output of R&D into the hands of those individuals who are directly concerned with the practical application of new and improved technology for immediate and wide use in the control of pollution. This program is specifically designed to bridge that gap. It will complement and facilitate conformance with the Refuse Act permit conditions, new enforcement standards, construction grant regulations, and other regulatory requirements which themselves serve as strong inducements to adoption of new technology. This program to date has been limited to the field of municipal wastewater pollution control.

An increase of $518,200 is requested to provide for expanded development of design manuals and guidelines, technical bulletins and seminars for use by consulting engineers, designers, inspectors, State and local engineers, and others directly involved in placing pollution abatement technologies in operation. The additional funds will also enable the Agency to expand this effort into an integrated EPA program for transfer of technology in all environmental pollution control fields. This increased emphasis will be directed to the development of process design manuals for industrial waste treatment processes and a technology transfer program for both air and solid waste pollution.

Operations, Research, and Facilities
Research and Development

Program Management and Support

Purpose

This activity encompasses overall management of and support for the Research, Development, Demonstration and Monitoring program activities administered by the Assistant Administrator for Research and Monitoring. The resources involved are utilized for program management and support. Program management covers the managerial functions necessary to overall direction and administration of the Agency's Research and Monitoring (R&M) program. This includes program policy, strategy development, program review, and Headquarters-level direction of program activities. These program management resources are not involved with the direct supervision of specific program activities, those functions being covered by resources within the respective program areas. Further, these program management resources do not encompass the functions of Agency management which are covered by Agency and Regional Management, described in a later section. Program management resources provide for staffing of the immediate offices of the:

Assistant Administrator for Research and Monitoring
Deputy Assistant Administrator for Research
Deputy Assistant Administrator for Monitoring
Deputy Assistant Administrator for Program Operations
and Divisions of this Office

These resources also cover: (1) R&M headquarters Division Directors and Branch Chiefs and their immediate staffs, (2) Directors of the three National Environmental Research Centers (NERC's), (3) the Director of the Western Environmental Research Laboratory, (4) Directors of the various research laboratories associated with the NERC's, and (5) the immediate offices of these Directors and the general support staffs at these locations. Also included are the regional R&M liaison staffs located at each of the Agency's ten regional offices.

Program support includes the funding of rents, utilities, telephones, reproduction services, supplies, and other common services required to support R&M program activities.

	1972	1973	Increase or Decrease
Budget Authority			
Program management.....	$7,113,900	$6,955,200	-$158,700
Program support.....	8,821,900	8,904,900	83,000
Total.....	15,935,800	15,860,100	-75,700
End-of-Year Employment			
Program management.....	388	367	-21
Program support.....	...	...	...
Total.....	388	367	-21
Man-Years, Total.....	290	346	56

Summary of Increases and Decreases

	1972	1973	Change
Program management	$7,113,900	$6,955,200	-$158,700

The reduction will result from the decrease in Regional Research and Monitoring staff effort.

Program support	8,821,900	8,904,900	+83,000

To provide for increased costs of rents, utilities, telephones, supplies, and other common services necessary to support the increased activity requested for the Research and Monitoring programs in 1973.

Research and Development
Program Management and Support
Program Management

Justification

1972:	$7,113,900
1973:	6,955,200
Change:	-158,700

	1972	1973	Change
Program management.....	$7,113,900	$6,955,200	-$158,700

To provide overall management of the Research and Monitoring programs as described in the foregoing sections, the following staffing is currently provided:

	End-of-Year Employment
Office of Research and Monitoring.....	8
Office of Research.....	48
Office of Monitoring.....	27
Office of Program Operations.....	59
Regional R&M Representatives.....	45
Regional Surveillance and Analysis Division.....	11
Laboratory Direction.....	190

The functions of these offices have been delimited to those normally required to provide adequate policy and overall program direction and coordination. The direct management and supervision of specific program activities has been excluded from this budget item and included in the respective program activities.

During 1972, the research and monitoring programs inherited by the Agency have been functionally integrated. In addition, the approximately 20 laboratories inherited by the Agency have been organizationally coordinated by naming three of these as National Environmental Research Centers and assigning other laboratories to these Centers as associated laboratories. This program integration and laboratory coordination has been accomplished while at the same time reducing the number of positions involved during 1972.

In 1973, the staffing of the regional components--the regional research representatives and the research/monitoring function of the Surveillance and Analysis Division--will be reduced by 21 positions. This is made possible by the organizational streamlining achieved in 1972. The dollar savings indicated above will result from this reduction.

Research and Development
Program Management and Support
Program Support

Justification

1972:	$8,821,900
1973:	8,904,900
Change:	+83,000

	1972	1973	Change
Program support.....	$8,821,900	$8,904,900	+$83,000

Program support resources cover a variety of program costs which are applicable to more than one program activity. These costs include communications costs, such as Federal Telecommunications System (FTS), telephones, toll calls, penalty mail, etc.; printing costs; laboratory and office security and custodial services; supplies and materials; and space rental costs.

An increase of $83,000 is requested to support these types of common services costs associated with the additional program effort proposed for 1973.

Operations, Research, and Facilities
Abatement and Control

Air

Purpose

The Air Abatement and Control program encompasses those activities required under the Clean Air Act, as amended (with the exception of activities related directly to research and development and enforcement). The Abatement and Control activities include: development establishment, and implementation of ambient air quality standards, stationary source standards, and mobile source standards. Because development and implementation of standards is part of a joint Federal-State-local effort, in which greatest responsibility lies with the States and communities, most of EPA's abatement and control efforts are oriented toward support of State and local efforts. The bulk of the resources under this program are in the form of grants to State and local air pollution control agencies; EPA activities in monitoring and surveillance are in direct support of the State and local programs; EPA provides technical assistance to the State and local agencies in development and operation of their programs; and EPA provides or supports training to improve the skills of State and local air pollution control personnel as well as to increase the availability of air pollution control manpower. Also, under this program, EPA assists other Federal agencies to bring their facilities into conformance with prevailing air pollution standards and helps ensure that the programs, projects, and other activities of Federal agencies produce a minimum air pollution impact.

Budget Authority	1972	1973	Increase or Decrease
Standards, guidelines, and regulations.....	$9,691,300	$9,708,300	$17,000
Monitoring and surveillance	8,758,900	11,448,900	2,690,000
Control agency support.....	42,922,000	51,540,000	8,618,000
Technical information and assistance.....	6,792,300	7,262,800	470,500
Federal activities.....	909,200	854,600	-54,600
Manpower planning and training.....	5,632,400	4,574,500	-1,057,900
Total.....	74,706,100	85,389,100	10,683,000

	1972	1973	Increase or Decrease
End-of-Year Employment			
Standards, guidelines, and regulations.....	197	197	...
Monitoring and surveillance	213	321	108
Control agency support.....	1	1	...
Technical information and assistance.....	289	289	...
Federal activities.....	36	36	...
Manpower planning and training.....	45	45	...
Total.....	781	889	108
Man-Years, Total.....	622	787	165

Summary of Increases and Decreases

	1972	1973	Change
Standards, Guidelines, and Regulations	$9,691,300	$9,708,300	+$17,000

An adjustment to provide for continuation of the 1972 level of effort in developing new source performance standards, hazardous emission standards, and motor vehicle and fuel standards and regulations.

Monitoring and Surveillance	8,758,900	11,488,900	+2,690,000
Air quality monitoring.....	2,765,400	2,604,700	-160,700

An adjustment, reflecting nonrecurring equipment costs, to provide for continuation of the 1972 level of effort in conducting a national State/Federal air quality monitoring program.

Stationary source surveillance	1,319,000	2,403,500	+1,084,500

To provide regional staff to conduct field surveillance and review compliance reports.

Mobile source surveillance....	4,674,500	6,440,700	+1,766,200

To initiate assembly-line testing of new 1973 model-year vehicles, and to expand performance testing of in-use vehicles to 1973 model-year light-duty vehicles.

Control Agency Support	42,922,000	51,540,000	+8,618,000

To increase grants to State and regional air pollution control agencies and to initiate one or more special purpose grant demonstrations of in-use vehicle inspection and/or implementation programs.

Technical Information and Assistance	6,792,300	7,262,800	+470,500

To provide for the full-year employment costs of new positions filled in 1972 to continue the 1972 level of effort in assisting the States to revise, upgrade, and execute their implementation plans.

	1972	1973	Change
Federal Activities	$909,200	$854,600	-$54,600
Federal activities.....	510,500	486,600	-23,900

An adjustment to provide for continuation of the 1972 level of effort in assisting other Federal agencies in complying with standards and preventing and abating air pollution from their installations and activities.

Environmental impact statements.....	398,700	368,000	-30,700

An adjustment to provide for continuation of the 1972 level of effort in reviewing and commenting on environmental impact statements.

Manpower Planning and Training	5,632,400	4,574,500	-1,057,900
Training grants and fellowships.....	3,680,800	2,636,500	-1,044,300

A decrease in the award of graduate training grants and fellowships to implement a change in EPA policy.

Direct training and planning.....	1,951,600	1,938,000	-13,600

An adjustment to provide for continuation of the 1972 level of effort in conducting a short-course, skill-improvement training program, and in assessing and forecasting national manpower and training needs in the air pollution field.

Abatement and Control
Air
Standards, Guidelines, and Regulations

Justification

1972:	$9,691,300
1973:	9,708,300
Change:	+17,000

	1972	1973	Change
Standards, guidelines, and regulations	$9,691,300	$9,708,300	+$17,000

Under the Clean Air Act, as amended, EPA is responsible for protection of air quality. Two general types of standards are required -- ambient standards, which establish limits for the levels of specific pollutants or classes of pollutants that may be allowed to occur in the air environment, and emission, or pollution-source standards, which establish limits on the discharges of pollutants into the air environment. The establishment of these standards involves review of available research and other technical information relative to health, economic, and other effects of various pollutants; determination of allowable levels; and promulgation of specific enforceable standards.

The Clean Air Amendments of 1970 required that EPA establish primary and secondary National Ambient Air Quality Standards for individual air pollutants which adversely affect public health and welfare and which result from emissions from numerous and diverse mobile and stationary sources. The primary standards are for the protection of public health, whereas the secondary standards are for the protection against adverse effects on vegetation, animals, materials, weather, visibility, and personal comfort and well-being.

Following promulgation of the standards, the States are required to develop and submit for Federal approval implementation plans to obtain compliance with the primary standards within three years after Federal approval and compliance with the secondary standards within a reasonable period after Federal approval. Where the States fail to submit such plans or fail to submit approvable plans, EPA is required to develop and promulgate such plans or appropriate portions thereof.

Development of standards

Primary and secondary standards were established April 31, 1971, for six pollutants -- sulfur oxides, particulate matter, carbon monoxide, photochemical oxidants, hydrocarbons, and nitrogen oxides. Control of other pollutants will be achieved through establishment and implementation of performance standards for new stationary sources, hazardous emission standards, mobile source emission standards, and control of motor vehicle

fuel additives. These standards are being developed in accordance with the Clean Air Act Amendments of 1970, which require (1) that national performance standards be set for control of air pollution from new facilities in designated classes of industries; (2) that emission standards be set for hazardous air pollutants to which no ambient air quality standard is applicable; (3) that emission standards be set for motor vehicles and aircraft; and (4) that fuels and fuel additives be registered and regulated. The Amendments further specify that a series of special studies and reports to Congress be developed in connection with these standards.

New source performance standards for the first five designated industries--steam electric power plants, municipal incinerators, cement plants, nitric acid plants, and sulfuric acid plants--were promulgated early in 1972. Hazardous emission standards for asbestos, beryllium, and mercury will also be promulgated in 1972. In 1972, the studies of the feasibility of emission standards for mobile sources will be continued and expanded. The aircraft studies will be extended in 1972 to characterize aircraft emissions, evaluate aircraft movements and to translate emissions into ambient air quality levels near airports. The emphasis on development of new standards will continue through 1973. A second group of new source standards will be issued early in the fiscal year, and a third group of standards are expected to be promulgated by February 1973. Standards for aircraft emissions also will be set in 1973. Fuel additive studies will be extended so as to permit establishment of controls at the earliest possible date.

Implementation of standards

State air implementation plans were required to be submitted by January 31, 1972, in accordance with Section 110 of the Clean Air Act. Plans for all but two States have been received and are being reviewed. A program of technical assistance in plan development is expected to result in plans which will be approvable in most cases. Where plans or segments of plans are not acceptable, the Agency will continue to assist States. The Agency will develop and promulgate plans for a State only as a last resort.

Plan reviews and approvals will continue throughout the latter part of 1972 and into 1973. Requests for extensions, postponements, and development of essential revisions to reflect new knowledge and improved control techniques will be evaluated and necessary assistance will be provided throughout 1973.

The 1973 increase represents a technical adjustment which will permit continuation of the 1972 level of effort in development and implementation of pollution source standards which include new source performance standards, hazardous emission standards, and motor vehicle and fuel standards and regulations.

Abatement and Control
Air
Monitoring and Surveillance

Justification

1972: $8,758,900
1973: 11,448,900
Change: +2,690,000

The air quality monitoring and surveillance program includes three activities--air quality monitoring, stationary source surveillance, and mobile source surveillance. These activities are supported by laboratory units which perform sample analyses and by the National Aerometric Data Information Service (NADIS) which provides computerized data storage and retrieval systems to handle the data developed.

	1972	1973	Change
Air quality monitoring.....	$2,765,400	$2,604,700	-$160,700

The ambient air quality monitoring program currently operates 300 Federal monitoring stations. These stations are complemented by 2,000 State and local stations to form an integrated Federal-State-local system which presently covers approximately 40 percent of the Nation's urban population. This network is gradually being expanded. In addition to operation of these stations, the program supports the State and local programs by verifying sampling results, calibrating instrumentation to ensure consistent results, and monitoring pollutants for which the State and local agencies have no monitoring analytical capability.

During 1972, data gathering for Priority I Air Quality Control Regions will be completed and monitoring established for the first group of hazardous air pollutants covered by standards. Program expansion through 1973 will ensure that States and localities have the capability to monitor pollutants covered by National Ambient Air Quality Standards by the end of 1974, and will provide an independent assessment of where Air Quality Control Regions stand with respect to attainment of standards.

Emergency episode control

The emergency episode control program assists State and local authorities during air pollution episodes, and takes immediate action when State and local authorities fail to act in an air pollution episode of imminent danger to human health. The EPA Emergency Operations Control Center

receives advance warnings of potential air pollution episodes so that abatement actions can be initiated to avoid build-up of pollutant concentrations. Currently, air quality data is measured in 50 cities and transmitted to the Center by telephone. This capability is gradually being expanded and by the end of 1973 will include an additional 15 cities for a total of 65. Information on the development of atmospheric inversions is obtained through NOAA. However, these forecasts cover too broad an area of the country for forecasting on one-city episodes and Environmental Meterlogical Support Units (EMSU's) are being established to provide local forecasting capability. Currently there are 14 EMSU's in operation and it is planned to have 18-21 in operation by the end of 1973.

The decrease represents an adjustment to reflect nonrecurring equipment costs, and to provide for continuation of the 1972 level of effort in conducting a national, State/Federal air quality monitoring program.

	1972	1973	Change
Stationary source surveillance.....	$1,319,000	$2,403,500	+$1,084,500

Standards surveillance includes progress monitoring on State implementation plans and review of State administration of New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP). Implementation plans will be reviewed through quarterly reports from States on air quality, semiannual reports on total progress in executing implementation plans, reviews of specific State actions, and general field investigations of air quality control regions.

Primary emphasis during 1972 will be on initiating a surveillance program to follow the progress of States in carrying out implementation plans to meet ambient air quality standards and to acquaint affected industries and State and local regulatory personnel with the requirements of the new standards.

In 1973 compliance reports will be routinely reviewed where States have been delegated enforcement responsibility, with follow-up field investigations as necessary. Delegating this responsibility to States will enable the Agency to carry out a selective surveillance program, rather than comprehensive, high frequency surveillance of all sources affected by standards. The emphasis will be on verification of the surveillance work done by State and local agencies and the affected sources.

An increase of $1,084,500 is requested to provide staff at the regional level to conduct field surveillance and review compliance reports of industries subject to NSPS now being promulgated and the

NSPS scheduled to be promulgated in 1973. Sources subject to hazardous pollutant standards (NESHAPS) will also be identified, polluters informed of new requirements, and compliance plans reviewed. Where States have been delegated the responsibility for enforcement of NSPS and NESHAPS, compliance reports will be reviewed and verified.

	1972	1973	Change
Mobile source surveillance.....	$4,674,500	$6,440,700	+$1,766,200

Mobile source monitoring evaluates the performance of emission controls of new and in-use vehicles for determination of conformance with Federal standards. Detection of noncompliance in a class or model of vehicles can be used to undertake enforcement action against a manufacturer to correct the deficiency through recall or other procedures.

During 1972, the program will consist primarily of a combination of prototype testing and in-use testing of 1972 model year vehicles. In 1973, the Agency will implement the total three step mobile source compliance program: prototype testing, assembly line testing, and in-use testing and recall. Assembly line testing provides for a continuous evaluation of whether vehicles in production comply with applicable regulations, thus complementing prototype testing and certification. Addition of the 1973 model year to the in-use testing program provides the follow-up essential to ensure that in-use vehicles stay in compliance with standards and is essential to implementation of the recall program.

An increase of $648,900 is requested to initiate assembly-line testing of new 1973 model-year vehicles. An additional increase of $1,117,300 is requested to expand performance testing of in-use vehicles to 1973 model-year light-duty vehicles.

Abatement and Control
Air
Control Agency Support

Justification

1972:	$42,922,000
1973:	51,540,000
Change:	+8,618,000

	1972	1973	Change
Control agency support.....	$42,922,000	$51,540,000	+$8,618,000

As authorized under Section 105 of the Clean Air Act, EPA provides control program grants to State, regional, and local air pollution control agencies. Control program grants provide the necessary financial stimulus to State and local governments to establish and develop air pollution control programs. Grant support to control agencies progresses in various developmental stages, from planning through development, improvement, and maintenance. To the extent possible, EPA provides matching funds to State and local agencies as required to support workable control programs. The Clean Air Act Amendments of 1970 liberalized the matching authorization from 2:1 to 3:1 for program improvement grants and from 1:1 to 3:2 for maintenance grants. Still another change in the legislation authorizes the assignment of temporary Federal employees to agencies in lieu of grant funds. This new authority provides added flexibility for alleviating the manpower resource gap.

During 1972, $42.9 million in Federal grants are being made available to match an estimated $56.8 million provided by 208 State and local control agencies. Of the 208 control agencies supported, there are 55 State agencies, and 153 local agencies. In 1972, a total of approximately 300 temporary employees will be assigned to States to supplement an estimated 5100 employees on the rosters of State and local agencies.

In 1973, assistance will be provided not only through control program grants and State assignee personnel, but also through Basic Ordering Agreements which allow States to utilize the services of Federal contractors; and special purpose grants for motor vehicle inspection programs and/or demonstrations of Air Quality Implementation Plan execution (which will demonstrate such new techniques as transportation control systems and land use planning). The actual form of assistance provided will be tailored to meet the needs of individual agencies. Approximately the same number of agencies will be provided control program grant assistance as in 1972; an additional 200 temporary Federal employees will be assigned for a total of 500, and approximately 18-25 special purpose grants for motor vehicle inspection programs and/or demonstrations of implementation plan executions will be awarded in 1973.

The increase of $8,613,000 is requested to increase grants to State, local, and regional air pollution control agencies, increase the number of temporary Federal employees assigned to control agencies, provide for Basic Ordering Agreements, and initiate special purpose grant demonstrations.

Allocation of Control Agency Grants

Air

State or Territory	1972	1973
Alabama	$438,153	$669,227
Alaska	61,914	65,686
Arizona	329,809	320,156
Arkansas	285,853	400,352
California	3,937,254	4,986,676
Colorado	491,905	475,485
Connecticut	791,803	944,469
Delaware	234,314	251,468
District of Columbia	177,956	147,304
Florida	1,128,551	1,233,065
Georgia	823,918	982,525
Hawaii	63,636	84,716
Idaho	133,204	173,146
Illinois	2,415,101	2,992,029
Indiana	1,198,704	1,600,297
Iowa	493,110	655,759
Kansas	310,830	410,004
Kentucky	682,389	818,264
Louisiana	514,635	707,860
Maine	213,662	295,320
Maryland	1,184,575	1,052,712
Massachusetts	1,168,297	1,443,450
Michigan	2,205,250	2,688,230
Minnesota	666,254	794,067
Mississippi	307,747	432,010
Missouri	973,357	1,091,033
Montana	191,597	224,660
Nebraska	218,650	268,523
Nevada	142,259	130,942
New Hampshire	137,032	184,518
New Jersey	2,094,746	2,391,423
New Mexico	234,150	221,378
New York	3,988,650	5,037,310
North Carolina	996,031	1,215,931
North Dakota	69,243	97,202

State or Territory	1972	1973
Ohio	2,283,099	2,933,332
Oklahoma	353,523	421,769
Oregon	645,778	691,489
Pennsylvania	2,985,848	3,340,341
Rhode Island	195,979	248,347
South Carolina	532,171	641,315
South Dakota	67,196	86,945
Tennessee	888,132	938,947
Texas	2,092,963	2,533,059
Utah	136,822	157,458
Vermont	86,468	102,001
Virginia	743,994	899,580
Washington	1,064,404	1,031,341
West Virginia	387,308	463,863
Wisconsin	745,635	1,065,168
Wyoming	54,775	67,201
American Samoa	3,254	5,029
Guam	22,201	28,858
Puerto Rico	264,227	331,462
Virgin Islands	41,684	43,298
Total, Air	42,900,000	51,518,000

Abatement and Control
Air
Technical Information and Assistance

Justification

1972:	$6,792,300
1973:	7,262,800
Change:	+470,500

	1972	1973	Change
Technical information and assistance..	$6,792,300	$7,262,800	+$470,500

EPA provides technical assistance to State, local, and other Federal agencies for the control of air pollution. These activities encompass development of the technical bases for developing implementation plans, for developing comprehensive environmental protection and pollution control plans, for developing and operating surveillance and monitoring systems, and for the performance of other pollution abatement and control activities. This work includes identification of sources, estimates of emissions, and identification of appropriate control technologies for use in developing control strategies.

EPA also reviews worldwide literature and assembles technical news and information concerning the scientific and engineering advances and innovations in the field of air pollution control. This technical information is disseminated to government agencies, industries, research groups, and universities.

The Clean Air Amendments of 1970 placed substantial new burdens on the States. The States were required to designate remaining air quality control regions within their boundaries; expand their inventory of air quality and source emission data; develop and submit, for EPA approval, regional implementation plans for the six pollutants presently covered by National Ambient Air Quality Standards; establish legal authority for regulatory programs; and develop emergency plans for meeting air pollution episodes. Implementation plans must provide for obtaining compliance with primary National Ambient Air Quality Standards within three years after their approval and, as they pertain to primary standards, must be adopted and submitted by the States within nine months after promulgation of the primary standards by EPA (January 31, 1972). EPA is required to review and approve the States' plans. If any of these plans are found inadequate, EPA must develop and promulgate Federal plans within six months after their submittal.

In addition to the requirements of the National Ambient Air Quality Standards, the States may develop plans to implement New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAPS). Those States which develop acceptable plans and procedures will be delegated the authority to implement and enforce such standards. A total of six NSPS and three NESHAPS are being promulgated in 1972. Additional NSPS and NESHAPS are scheduled for 1973. In order to

enable the States to exercise primary responsibility for air pollution abatement and control, considerable technical assistance will be required to extend plans and strategies to these standards. Further, implementation plans will need to be continuously revised as additional NSPS and NESHAPS are developed.

An increase of $470,500 is requested to provide for the full-year employment costs of new positions filled in 1972, to continue the 1972 level of effort in assisting the States in revising and upgrading their implementation plans and in assisting them in executing these plans.

Abatement and Control
Air
Federal Activities

Justification

1972:	$909,200
1973:	854,600
Change:	-54,600

	1972	1973	Change
Federal activities.....	$510,500	$486,600	-$23,900

The purpose of this program is to ensure that other Federal agencies' activities produce a minimum air pollution effect and do not violate prevailing standards. Executive Order No. 11507 requires that, by December 31, 1972, all installations owned or leased by the Federal Government be in compliance with or have under way remedial actions to bring them into conformance with established Federal, State, and local air and water pollution control standards.

In furtherance of this requirement, EPA compiles, stores, and processes data on the air pollutant emissions of Federal installations, develops and issues guidelines, and provides consultation and technical assistance to Federal facilities and agencies in development of their air pollution control plans and programs.

In 1972 and 1973, EPA will continue a source and emission inventory of Federal installations; develop a bank of source and emission data and render it operational; provide consultation and technical assistance to Federal facilities and agencies; and assist OMB in review of Federal agency air pollution control plans.

The decrease represents an adjustment to provide for continuation of the 1972 level of effort in assisting other Federal agencies in complying with standards and preventing and abating air pollution from their installations and activities.

Environmental impact statements..	398,700	368,000	-30,700

The National Environmental Policy Act of 1969, amplified by Executive Order 11514, requires all Federal agencies to prepare environmental impact statements for review by other agencies. EPA reviews environmental impact statements for air pollution implications.

In 1972, EPA will review 1,500 environmental impact statements from the air pollution point of view.

The decrease represents an adjustment to provide for continuation of the 1972 level of effort.

Abatement and Control
Air
Manpower Planning and Training

Justification

1972:	$5,632,400
1973:	4,574,500
Change:	-1,057,900

	1972	1973	Change
Training grants and fellowships.....	$3,680,800	$2,636,500	-$1,044,300

To help meet national needs for professional air pollution control manpower, EPA provides grants to universities to support air pollution control training for undergraduate and graduate students and provides fellowships for graduate study in air pollution control-related courses of study.

In 1972, grants will support 40 university programs which will train 200 undergraduate and 375 graduate students in air pollution control. Fellowships will support 68 graduate students at 55 universities.

In 1973, grant support will be reduced to 20 university programs which will train 25 undergraduate and 300 graduate students while fellowships will support 85 graduate students at 70 universities.

These activities are being scaled down in 1973 in keeping with an EPA policy which encourages assumption of responsibility for environmental graduate training by non-Federal sources so that EPA may direct its funds to other forms of training with greater immediate impact in meeting pollution control manpower needs.

Direct training and planning.....	1,951,600	1,938,000	-13,600

EPA develops and conducts short-term orientation and technical training courses for State and local air pollution control agency personnel as well as for personnel from private industry and other Federal agencies. EPA also develops and provides training materials for use by State and local air pollution control agencies in the conduct

of their own training and performs surveys and analyses to define present and future air pollution control manpower needs.

In 1972, EPA will conduct orientation and technical training courses, training 2,000 State and local agency personnel, 300 personnel from industry, and 800 from other Federal agencies. A study of manpower needs in 264 State and local air pollution control agencies will be completed. The study report will include job descriptions, staffing requirements, and detailed task analyses.

In 1973, orientation and technical training will continue at about the same level. A study to relate the task analysis to the training curriculum will be conducted to ensure that training is responsive to current needs. Other projects to be initiated include a salary study of air pollution control personnel and a staffing guide that can be used by local governments to improve their agency effectiveness.

A system of course fees will be applied to the direct training program in 1973. Receipts will be deposited in the U.S. Treasury as general revenues since there is no authority to use such funds for direct program support. Consequently, the orientation and technical training program will continue to depend on appropriated funds.

The $13,600 decrease represents an adjustment to provide for continuation of the 1972 level of effort in conducting a short-course, skill-improvement training program and in assessing and forecasting national manpower and training needs in the air pollution field.

Operations, Research, and Facilities
Abatement and Control

Water Quality

Purpose

Water quality efforts are directed toward assisting the States in carrying out water quality improvement programs. The Agency provides both financial and technical support so that planning and implementation can be undertaken by the States.

Control agency grants support development and maintenance of basic water pollution control agencies. Planning grants support development of basin planning at State, regional, and local level. Technical assistance and information is provided on the full spectrum of water pollution problems, including applied technology, water quality monitoring, standards development, and program management. Training programs assist in development of adequate skilled manpower ranging from plant operators to plant designers and managers.

Direct Federal activities include such programs as assistance to other Federal agencies in meeting water quality standards, reviewing environmental impact statements, issuing performance standards for marine sanitation devices, and operating a program for prevention of oil spills. The spill prevention program also includes development of regional and State contingency plans to complement the National Contingency Plan.

Essential complementary activities include water quality monitoring and reporting; collection and dissemination of water quality and technical data; monitoring of specific types of pollution sources; studies of the economic impact of pollution control requirements upon industry; and participation in Federal water resource planning and similar programs which help provide the base for development of criteria and standards, indicate the need for enforcement action, and otherwise support water quality programs.

This budget activity also includes administration of the construction grants program, which is the primary mechanism for encouraging and assisting construction of new and improved municipal sewage treatment plants.

	1972	1973	Increase or Decrease
Budget Authority			
Standards, guidelines, and regulations	$3,302,700	$3,292,500	-$10,200
Monitoring and surveillance	5,576,400	5,474,800	-101,600
Planning	13,617,400	14,191,000	573,600
Control agency support	15,611,000	20,611,000	5,000,000
Technical information and assistance	6,378,700	7,348,000	969,300
Federal activities	1,896,000	1,861,900	-34,100
Manpower planning and training	9,141,500	7,512,100	-1,629,400
Construction grants administration	6,904,500	6,820,900	-83,600
Total	62,428,200	67,112,200	4,684,000
End-of-Year Employment			
Standards, guidelines, and regulations	145	145	...
Monitoring and surveillance	273	273	...
Planning	232	232	...
Control agency support	32	32	...
Technical information and assistance	233	233	...
Federal activities	106	106	...
Manpower planning and training	97	97	...
Construction grants administration	382	382	...
Total	1,500	1,500	...
Man-Years, Total	1,018	1,410	392

Summary of Increases and Decreases

	1972	1973	Change
Standards, Guidelines, and Regulations	$3,302,700	$3,292,500	-$10,200

An adjustment to provide for continuation of the 1972 level of effort in surveillance of water quality standards compliance, review of licences and permits issued by Federal agencies, and operation of an oil and hazardous materials program including surveillance of compliance with Federal regulations.

Monitoring and Surveillance	5,576,400	5,474,800	-101,600
Water quality monitoring.....	3,537,100	3,473,600	-63,500

An adjustment to provide for continuation of the 1972 level of effort in operating a nationwide water quality monitoring program and the associated information system, STORET.

Pollution source monitoring...	2,039,300	2,001,200	-38,100

An adjustment to provide for continuation of the 1972 level of effort in monitoring selected pollution sources to ascertain compliance with water quality standards and in investigating water pollution problems.

Planning	13,617,400	14,191,000	+573,600
Planning grants.....	5,370,000	5,370,000	...

Continuation of the 1972 level of effort in providing grants to local agencies for development of river basin water quality management plans.

Federal planning.....	8,247,400	8,121,000	-126,400

An adjustment to provide for continuation of the 1972 level of effort in administering EPA's regulations requiring metropolitan or river basin plans prior to award of construction grants and in participating in interagency water resource planning.

Water Resources Council.....	...	700,000	+700,000

To provide reimbursement to the Departments of Housing and Urban Development, Commerce, and Transportation and the Atomic Energy and Federal Power Commissions to cover their participation in Water Resources Council planning studies. EPA is serving as the "collector" agency for funding the participation of these agencies.

	1972	1973	Change
Control agency grants.....	$15,611,000	$20,611,000	+$5,000,000

To increase grants to State and interstate water pollution control agencies to enable them to strengthen their programs and to better assume their new responsibilities in certifying Refuse Act permit applications and in certifying the river basin and metropolitan water quality plans required by the construction grants program.

Technical Information and Assistance	6,378,700	7,348,000	+969,300

To initiate a comprehensive investigation of water quality in Lakes Huron and Superior as part of an interagency, international effort under the auspices of the International Joint Commission and to otherwise expand investigation of eutrophication, agricultural runoff, and other difficult water pollution problems in the Great Lakes.

Federal Activities	1,896,000	1,861,900	-34,100
Federal activities.....	1,121,300	1,094,000	-27,300

An adjustment to provide for continuation of the 1972 level of assistance to Federal agencies in controlling water pollution generated by their own installations and activities.

Environmental impact statements.....	774,700	767,900	-6,800

An adjustment to provide for continuation of the 1972 level of effort in reviewing and commenting on environmental impact statements submitted by Federal agencies.

Manpower Planning and Training	9,141,500	7,512,100	-1,629,400
Training grants and fellowships.....	5,369,900	3,754,100	-1,615,800

A decrease in graduate training grants and research fellowships to implement a change in EPA policy.

Undergraduate training.....	340,000	340,000	...

Maintenance of the 1972 level of effort in supporting the improvement of undergraduate training in the design and operation of wastewater treatment plants.

	1972	1973	Change
Operator training.....	$1,782,800	$1,776,000	-$6,800

An adjustment to provide for continuation of the 1972 level of effort in supporting the training of waste treatment plant operators through grants to States and educational institutions and administration of MDTA training projects.

Direct training and planning.....	1,648,800	1,642,000	-6,800

An adjustment to provide for continuation of the 1972 level of effort in conducting a direct training program for skill improvement for Federal, State, local, and other personnel and in conducting a program for assessing and forecasting manpower and training needs.

Construction Grants Administration	6,904,500	6,820,900	-83,600

An adjustment to provide for continuation of the 1972 level of effort in administrating the construction grants program.

Abatement and Control
Water Quality
Standards, Guidelines, and Regulations

Justification

1972:	$3,302,700
1973:	3,292,500
Change:	-10,200

	1972	1973	Change
Standards, guidelines, and regulations	$3,302,700	$3,292,500	-$10,200

EPA is responsible for establishment of standards and guidelines for protection of the environment. These include water quality standards for interstate waters. In addition, legislation has been proposed to extend the water quality standards program to include all intrastate waters, navigable waters, groundwaters, and an increased coastal zone. Environmental standards establish limits for the levels of specific pollutants or classes of pollutants that may be allowed to occur in the environment. Accordingly, they differ from effluent or source standards which establish limits on the discharges of pollutants into the environment. The establishment of environmental standards involves review of available research and other technical information relative to health, economic, and other effects of various pollutants; determination of allowable levels; and promulgation of specific enforceable standards.

Water quality standards compliance

Under existing legislation, water quality standards are being established for the interstate and coastal waters of the 50 States, Puerto Rico, Virgin Islands, District of Columbia, and Guam. These jurisdictions have developed and adopted standards and submitted them for EPA approval--thus establishing Federal-State standards. Pursuant to the definitions of the Act, the standards consist of a designation of water uses, a prescription of water quality criteria to protect these uses, and an implementation plan delineating abatement requirements, abatement schedules, and other actions that the States will use to bring about compliance with the standards. In 1972 and 1973, work will continue in setting and obtaining adoption of standards.

Oil and hazardous materials

Standards and guidelines are also required for the specific problem of preventing and controlling spills of oil and hazardous materials. In accordance with the Federal Water Pollution Control Act, as amended, during 1972 and 1973, the oil and hazardous materials program will promulgate and implement regulations for methods and procedures to remove discharged oil

and develop methods to clean up hazardous substances. It will provide and assist the development and implementation of regional and local contingency plans and further develop a program to prevent spills. EPA's National Contingency Plan to respond to oil and hazardous materials spills will be supplemented by 10 regional plans covering the States within the new regional boundaries. In addition, each State will be encouraged to establish State and local plans.

Licenses and permits

Standards further serve as a reference point for evaluation of applications for Federal licenses and permits for facilities which discharge into navigable waters. EPA reviews and comments on such applications. Approximately 2,000 applications will be reviewed in 1972 and 23,000 in 1973. The expected increase in productivity in 1973 will result from an expected increase in operating efficiency.

Implementation of Water quality standards

During 1972 and 1973, the Agency will be working with the States on a continuous process of standards implementation and improvement. Progress on compliance with implementation plans is continuously monitored. Standards are updated and revised where necessary by virtue of new scientific knowledge on water quality requirements, changed water use patterns, change waste discharge patterns, evolving treatment technology, or other appropriate reasons. In addition, the establishment of standards for intrastate waters, navigable waters, groundwaters, and an increased Coastal Zone will be initiated if the proposed enabling legislation is enacted. This work will involve development and promulgation of regulations on water use designations, water quality requirements and other features of acceptable standards, provision of advice and assistance to the States in their development and adoption of standards, review of standards submitted by the States, and development and promulgation of Federal standards where necessitated by inadequate State actions. Relative to the International Field Year on the Great Lakes, extensive water quality sampling and related field work is being carried out on Lake Ontario to provide a complete and detailed description of the quality of the Lake.

The decrease reflects an adjustment to provide for continuation of the 1972 level of effort.

Abatement and Control
Water Quality
Monitoring and Surveillance

Justification

1972:	$5,576,400
1973:	5,474,800
Change:	-101,600

A broad monitoring and surveillance program is carried out to gather essential data on water quality nationwide. A basic water quality monitoring system, using a Federal network plus State and local stations, gathers routine data on general water quality levels. Pollution source monitoring systems provide data on specific municipal and industrial discharges. The water quality network is supported by laboratory units to perform sample analyses and by computerized data storage and retrieval systems to handle the data developed. The data developed is utilized in development of environmental criteria and standards, for identification of needed abatement actions, for planning, and for other purposes. The data is also made available to State and local pollution control agencies and other Federal agencies to be utilized for similar purposes.

	1972	1973	Change
Water quality monitoring.....	$3,537,100	$3,473,600	-$63,500

Monitoring stations

The water quality monitoring program currently operates 420 monitoring stations and supports, through reimbursements, the operation of an additional 455 stations by the Geological Survey. These Federal stations are complemented by State monitoring networks. Also, in addition to operation of monitoring stations, the water quality monitoring program supplements and supports State efforts by introducing new technology, providing verification of data and analytical quality control, and monitoring pollutants outside of State capability. The program further provides for storage and retrieval of both Federal and State data in a computerized data system called STORET.

STORET

The STORET system consists of a central computer and computer programming and operation capability located in Washington, D. C. Thirty-nine field offices (including EPA's regional offices and several State water pollution control agencies) are connected to the system by teleprocessing units. These units provide the field offices with storage and retrieval of inventory and monitoring data and perform various computations to facilitate analyses of these data. The system

is being improved and expanded in 1972, principally to provide an additional capability for processing industrial waste inventory information from the estimated 40,000 waste discharge permit applications. (See page AC-28). A part of this improvement will involve completion of coding of additional hydrologic maps. Such coding is necessary to reference the location of waste sources and monitoring stations, thus facilitating storage and retrieval of data. Teleprocessing units are being added for an additional six State water pollution control agencies. Other refinements include the addition of water use and standards data which will eventually enable the system to make automatic comparisons of water quality data with standards for specific locations.

Fiscal year 1972 efforts are aimed at improving and expanding the water quality monitoring network. Sampling frequency and pollutant coverage are being increased. Planning for future expansion of both Federal and State portions of the network is under way. These improvements and planning efforts will be continued in 1973. Sites for additional stations will be located and appropriate sampling equipment designed.

The decrease reflects an adjustment to provide for continuation of the 1972 level of effort.

	1972	1973	Change
Pollution source monitoring.....	$2,039,300	$2,001,200	-$38,100

The pollution source surveillance program has two major parts: a municipal waste inventory and an industrial waste inventory. Both activities are directed toward collecting information and data on sources of pollution and their discharges into or impact on the environment. This information is used for evaluating pollution problems and pollution control needs, for assessing pollution control practices and compliance with established control regulations or standards, and for planning pollution control programs and estimating pollution abatement costs. Each of these activities also serves one or more special purposes.

Municipal waste inventory

The municipal waste inventory contains statistics on 20,000 municipal waste treatment plants. These statistics include the location, size, and design characteristics of each facility; the quantity and character of the waste effluents discharged; and the abatement requirements and compliance schedules imposed by water quality standards implementation plans, pending enforcement actions, and other regulations. In short, the inventory provides a concise but comprehensive characterization of the Nation's municipal waste treatment systems. The inventory is continuously updated with

information collected from the State water pollution control agencies. Data from the construction grants program, from water quality standards and enforcement activities, and from other sources are added to the inventory as it becomes available.

Industrial waste inventory

The industrial waste inventory was initiated in 1971. The inventory contains information on the size and type of the industrial plants and their pollution control facilities, on the quantity and quality of their waste discharges, and on abatement needs and pending abatement requirements and schedules. Data are being collected in two ways: through questionnaires mailed to individual manufacturing plants and, eventually, through information received in applications for permits under the Corps of Engineers waste discharge permit program. In 1971, 10,000 questionnaires were mailed and the processing of these and the start-up of the permit system initiated. In 1972, the processing of questionnaires is being continued and the processing of information from an estimated 40,000 applications received under the waste discharge permit program will be initiated.

During 1973, efforts will continue to expand the pollution source inventory and improve its coverage. Inventories will be conducted on discharges from agricultural, mining, and similar sources not adequately covered by the existing system, and instrumentation requirements are being determined.

An adjustment is made in providing for continuation of the 1972 level of effort in monitoring selected pollution sources to ascertain compliance with water quality standards and investigating water pollution problems.

Abatement and Control
Water Quality
Planning

Justification

1972:	$13,617,400
1973:	14,191,000
Change:	+573,600

	1972	1973	Change
Planning grants.....	$5,370,000	$5,370,000	...

Financial assistance is provided through planning grants so that States may meet construction grant requirements by developing water quality management plans for basin and/or metropolitan regional areas.

The principal emphasis for planning programs in 1972 is on preparation for an expanded construction grant program. With the doubling in the amount available for construction grants, planning at the State level must be greatly accelerated to meet legal requirements, as well as to assure that the funds are used effectively. This, in turn, will require assistance and consultation in the development of State plans, and careful review of completed plans to assure that they are adequate and provide proper guidance and priorities for the use of construction grant funds.

This emphasis will continue through 1973. After the surge of activity required in 1972 to catch up with the increased funding, efforts will be shifted toward development of plans which not only guide current investment, but also begin to look to the future. Capability for more substantive, future-looking planning must be developed at the State level. This will enable States to produce the plans which will be required to meet national water quality objectives by 1976.

Federal planning.....	8,247,400	8,121,000	-126,400

Federal planning includes development of comprehensive river basin pollution control and abatement plans as required by Section 3(a) of the Federal Water Pollution Control Act, participation in interagency water and related land resources planning, and review and evaluation of water quality management plans being developed by State and local agencies to qualify for waste treatment facilities construction grants. The primary emphasis is currently on water quality management plans, which are necessary to the expanded construction grant program.

No grant for the construction of waste treatment works can be made unless the project is included in (1) an effective basin-wide pollution abatement plan and (2) a regional or metropolitan plan, if applicable, pursuant to 18 CFR 601, published July 2, 1970. Interim procedures may be used prior to July 1, 1973 in order to reconcile lead time for planning with existing schedules.

During fiscal year 1972, planning activities are concentrated on assisting state and local planning agencies to stimulate the development of adequate basin, regional and metropolitan plans, evaluating completed plans, and reviewing construction grant project applications to assure that they are consistent with existing plans or interim plans.

In 1973 efforts will be focused primarily on stimulating development of fully acceptable plans prior to July 1, 1973. Assistance will be provided to State, interstate and local planning agencies which are responsible for basin, regional and metropolitan plans. Completed plans will be evaluated, and guidance provided to help correct any deficiences. Accepted plans will be monitored for accomplishment. Construction grant applications will be evaluated for consistency with accepted plans.

The decrease reflects an adjustment to provide for continuation of the 1972 level of effort.

	1972	1973	Change
Water Resources Council.....	...	$700,000	+$700,000

An increase is requested to provide reimbursement to the Departments of Housing and Urban Development,Commerce, and Transportation, and the Atomic Energy and Federal Power Commissions to cover their participation in the Water Resources Council planning studies. EPA is serving as the "collector" agency for funding the participation of these agencies. The studies involved are Long Island Sound, Southeastern New England, Platte River, and the Pacific Northwest.

Abatement and Control
Water Quality
Control Agency Support

Justification

1972:	$15,611,000
1973:	20,611,000
Change:	+5,000,000

	1972	1973	Change
Control agency grants.....	$15,611,000	$20,611,000	+$5,000,000

As originally authorized under Section 7 of the Federal Water Pollution Control Act, EPA provides matching grants to State and interstate water pollution control agencies. These grants, which are allocated to States by formula, are to help support the establishment and maintenance of water pollution control programs. This budget request is based on the assumption that new grant program legislative authority will be forthcoming early enough in the last half of 1972 to allow time for obligation of the 1972 budgeted dollars. Both the 1972 and 1973 estimates are within the proposed appropriation authority contained in Bills now under consideration by the Congress.

During 1972, the grant program will help support 59 agencies (51 State, three territorial, and five interstate). See page AC-32. The Federal contribution will represent about 25 percent of total costs for these agencies' programs, the State share consisting of about $43,800,000. The manpower resources of these agencies will increase from 2,936 man-years to 3,478 man-years.

During 1973, the same agencies will continue to receive Federal support. The increase will be distributed more or less proportionally among them, enabling an increase in total staff man-years from 3,478 to 3,800. The Federal contribution will increase to about 30 percent of total costs of the State and interstate programs, with the State share rising to about $45,000,000.

The increase, which will permit slightly larger grants to the State and interstate water pollution control agencies, will enable them to strengthen their programs and to better assume their new responsibilities in certifying Refuse Act permit applications and certifying river basin and metropolitan water quality plans required by the construction grants program.

Allocation of Control Agency Grants

Water Quality

State or Territory	1972	1973
Alabama	$184,900	$184,900
Alaska	20,400	20,400
Arizona	76,800	76,800
Arkansas	112,600	112,600
California	672,000	672,000
Colorado	90,900	90,900
Connecticut	167,500	167,500
Delaware	86,000	86,000
District of Columbia	86,800	86,800
Florida	276,800	276,800
Georgia	213,800	213,800
Hawaii	69,000	69,000
Idaho	43,900	43,900
Illinois	430,900	430,900
Indiana	233,800	233,800
Iowa	123,300	123,300
Kansas	95,900	95,900
Kentucky	164,000	164,000
Louisiana	179,600	179,600
Maine	63,600	63,600
Maryland	183,900	183,900
Massachusetts	267,800	267,800
Michigan	360,100	360,100
Minnesota	158,000	158,000
Mississippi	137,200	137,200
Missouri	197,400	197,400
Montana	39,500	39,500
Nebraska	67,700	67,700
Nevada	25,500	25,500
New Hampshire	64,900	64,900
New Jersey	312,200	312,200
New Mexico	53,100	53,100
New York	645,400	645,400
North Carolina	258,400	258,400
North Dakota	37,400	37,400

State or Territory	1972	1973
Ohio	447,800	447,800
Oklahoma	118,000	118,000
Oregon	98,900	98,900
Pennsylvania	489,400	489,400
Rhode Island	108,800	108,800
South Carolina	151,000	151,000
South Dakota	38,900	38,900
Tennessee	204,300	204,300
Texas	424,600	424,600
Utah	56,100	56,100
Vermont	44,200	44,200
Virginia	208,400	208,400
Washington	137,300	137,300
West Virginia	107,600	107,600
Wisconsin	199,500	199,500
Wyoming	24,200	24,200
Guam	74,300	74,300
Puerto Rico	192,500	192,500
Virgin Islands	73,200	73,200
Subtotal, Water Quality	9,400,000	9,400,000
Interstate Agencies		
Interstate Sanitation Commission Connecticut New Jersey New York	138,300	138,300
Delaware River Basin Commission Delaware New York New Jersey Pennsylvania	133,500	133,500
New England Interstate Water Pollution Control Commission Connecticut New York Maine New Hampshire Massachusetts Rhode Island Vermont	88,300	88,300
Interstate Commission on the Potomac River Basin Pennsylvania Virginia West Virginia	51,200	51,200

Interstate Agencies	1972	1973
Ohio River Valley Water Sanitation Commission.....	188,700	188,700
Illinois West Virginia Indiana Ohio Virginia New York Kentucky Pennsylvania		
Subtotal, Interstate Agencies.....	600,000	600,000
Funds will be used for bonuses to States as prescribed in proposed bill for extending and amending Section 7 of the Federal Water Pollution Control Act, as amended.....	5,000,000	10,000,000
Total, Water Quality.....	15,000,000	20,000,000

Note: 1973 Subject to change to reflect new population estimates provided by the Department of Commerce.

Abatement and Control
Water Quality
Technical Information and Assistance

Justification

1972:	$6,378,700
1973:	7,348,000
Change:	+969,300

	1972	1973	Change
Technical information and assistance.....	$6,378,700	$7,348,000	+$969,300

EPA provides technical assistance to other Federal, State, and local agencies for the control of water pollution. These activities encompass assisting the States in setting and enforcing standards (including stream uses, criteria, and implementation and enforcement plans), developing comprehensive environmental protection and pollution control plans, developing and operating surveillance and monitoring systems, and performing other pollution abatement and control activities. This work principally involves field investigations and special studies to determine the sources or causes of pollution and the most appropriate abatement measures. It also encompasses technical advice and consultation and the provision of laboratory services.

Other technical assistance activities include development of interstate compacts and uniform laws, performance of estuarine and oceanographic studies, and the development of international agreements for control of border pollution, pollution of the seas, and other problems of a multi-national nature. The estuarine and oceanographic program encompasses the collection, assimilation, and dissemination of water quality, water use, and associated data pertaining to the Nation's estuarine and coastal zones and the Great Lakes. This information is utilized by EPA and is available to State, local, and other Federal agencies for coastal zone management planning, for assessing the water quality impact of proposed coastal-zone development activities, and for other purposes.

EPA also reviews worldwide literature and assembles technical news and information concerning scientific and engineering advances and innovations in the field of environmental protection. This technical information is disseminated to government agencies, industry, research groups, and universities.

Fiscal year 1972 and 1973 efforts will be largely focused on updating and expanding guidelines and data which are integral to the technical assistance program. The national Technical Advisory Committee

Report, Water Quality Criteria, was published in 1968 and provided the basis for development and establishment of the current Federal-State water quality standards for interstate waters. Since that publication, new scientific knowledge on water quality requirements and tolerances has been acquired. Also, weaknesses in coverage and comprehensiveness of the Report have been identified. For these reasons, this Report is being updated and expanded to provide the basis for upgrading presently established water quality standards where necessary, and to provide the basis for establishing standards for intrastate waters, navigable waters, an increased coastal zone, and groundwaters. This is pursuant to the Administration's proposed legislation to strengthen and extend the Federal standards-setting authority of Section 10 of the Federal Water Pollution Control Act, as amended.

Water pollution arising from animal feedlot operations, forestry and logging practices, irrigation return flows, and rural runoff have not been studied on a systematic, nationwide basis. Because these sources are being found to have a substantial adverse impact on water quality, it is now necessary to make a concerted national effort to minimize these impacts. Accordingly, a comprehensive inventory and study of these sources, their effects, and possible remedial measures, preparatory to developing a national program for their control, has been initiated in 1972.

The estuarine and oceanographic information system will also be expanded in 1973, especially in coverage of the Great Lakes. Particular attention will be devoted to consolidation and automation of information on dredging and filling and to collection of information on other physical modifications and salt water intrusions. Assistance to States for developing coastal zone management plans will be greatly expanded and a small-scale coastal pollution monitoring network will be initiated.

Updated water quality criteria will be used in 1973 to help States revise and strengthen water quality standards, and extend standards to all intrastate waters, navigable waters, groundwaters, and an increased coastal zone, if authorized by pending legislation. Studies on critical water quality problems initiated in 1972 will be continued and the information derived from them made available for use in pollution abatement and control programs. Assistance to States on all phases of program development will be continued at a high level to support the national emphasis on water pollution abatement and control.

The increase requested for 1973 is to support an expanded program of field investigations in the Great Lakes to assess compliance with water quality standards and waste discharge permits. These investigations will involve sampling of waste discharges and the waters of the Great Lakes. This work is directed toward meeting the Agency's commitment under the U.S. - Canada Agreement for accelerated effort to abate and control water pollution in the Great Lakes.

Abatement and Control
Water Quality
Federal Activities

Justification

1972:	$1,896,000
1973:	1,861,900
Change:	-34,100

	1972	1973	Change
Federal activities.....	$1,121,300	$1,094,000	-$27,300

EPA supports other Federal agencies in ensuring that their activities produce a minimum water pollution effect and do not violate applicable standards. Executive Order No. 11507 requires that, by December 31, 1972, all installations owned or leased by the Federal Government be in compliance with or have under way remedial actions to bring them into conformance with established Federal, State, and local air and water pollution control standards.

The EPA program includes an inventory of Federal waste water treatment facilities, development of guidelines, and consultation and technical assistance to Federal facilities and agencies in development of their water pollution control programs and on-site reviews of Federal facility waste water treatment plants.

In 1973, EPA will continue development of the inventory of Federal waste water treatment facilities and practices, provide consultation and technical assistance involving about 5,000 Federal facilities, perform 600 on-site reviews of Federal wastewater treatment facilities, assist OMB in review of water pollution control plans from at least 20 treatment facilities, and assist OMB in review of 12 Federal agency water pollution control plans.

The decrease reflects an adjustment to provide for continuation of the 1972 level of effort in assisting Federal agencies in controlling water pollution generated in their own installations and activities.

Environmental impact statements..	774,700	767,900	-6,800

The National Environmental Policy Act of 1969, implemented by Executive Order No. 11514, requires all Federal agencies to prepare environmental impact statements evaluating the potential effects on the environment of their proposed actions and projects and to submit the statements to OMB for review by other agencies. EPA reviews environmental impact statements for their water pollution implications.

In 1972, EPA will review about 1,000 environmental impact statements and will be able to handle about the same number in 1973.

The decrease reflects an adjustment to provide for continuation of about the same level of effort in 1973 as in 1972.

The decrease reflects an adjustment to provide for continuation of about the same level of effort in 1973 as in 1972.

Abatement and Control
Water Quality
Manpower Planning and Training

Justification

1972:	$9,141,500
1973:	7,512,100
Change:	-1,629,400

	1972	1973	Change
Training grants and fellowships	$5,369,900	$3,754,100	-$1,615,800

In order to help meet professional manpower needs in water pollution control, EPA provides grants to universities to support water pollution control training for graduate students and provides fellowships for graduate study in water pollution control-related courses of study.

In 1972, grants will support approximately 100 university programs training 30 undergraduate and 1269 graduate students. Fellowships will support 90 graduate students at 45 universities. One national conference will be held to review graduate and undergraduate needs for water pollution control training.

Reflecting the budget decrease in 1973, grants will support approximately 54 university programs which will train 30 undergraduate and 765 graduate students while fellowships will support 22 graduate students at 18 universities. These activities are being scaled down in 1973 in keeping with an EPA policy to encourage more assumption of responsibility for environmental graduate training by non-Federal sources so that EPA may direct its funds to other forms of training with greater immediate impact in meeting pollution control manpower needs.

Undergraduate training.....	340,000	340,000	...

EPA also provides grants to educational institutions to provide undergraduate training in various technical aspects of water pollution control. This helps meet some of the short-term needs for technical manpowerand leads some students to graduate environmental studies and eventual professional careers in the environment.

In 1972 these grants will support training for 120 undergraduates at four educational institutions. In 1973 this training will continue at about the same level.

Operator training.....	1,782,800	1,776,000	-6,800

EPA provides grants to States and educational institutions for short-term training of waste water treatment plant operators to help meet

the increased need for upgraded skills in this area, generated by the construction grants program. In 1972, EPA will provide grants to 25 States to update the skills of approximately 3,000 presently employed water and wastewater treatment plant operators. In addition several "national impact" grants will be made to educational institutions to provide short-course training for 150-200 persons in advanced wastewater treatment, and 50 State and local projects will train instructors in teaching methodology. Several small miscellaneous grants will be made to continue on-going correspondence course programs, curriculum development and decision-maker training, and to provide for training of operators in federally operated water treatment facilities in cooperation with other Federal agencies.

In 1973, operator training carried out with funds appropriated to EPA will continue at about the same level of effort as in 1972.

The decrease represents an adjustment to permit operation at essentially the 1972 level.

The above programs are augmented by MDTA funds managed by EPA through interagency agreements with the Departments of Labor and HEW. These programs will provide funds to update the skills of approximately 600 presently employed operators and provide "entry-level" training for 750 operators and 60 technicians.

In 1973, EPA's MDTA programs will provide "update" training for approximately 600 currently employed operators compared to 700 in 1972 and "entry-level" training (both operator and technician) for 810 operator/technicians compared to 1,160 persons in 1972. Public Service Career funds (provided by D.O.L.), utilized in 1971 and 1972 to train approximately 1,000 persons in the water treatment and public works field, will be discontinued as of June 30, 1972.

The total operator/technician training effort will be substantially reduced in 1973 due to the cutback in MDTA funds.

	1972	1973	Change
Direct training and planning	$1,648,800	$1,642,000	-$6,800

EPA develops and conducts short-term managerial and technical training for personnel from State and local water pollution control agencies as well as personnel from other Federal agencies and private industry; provides guidance to those agencies and develops and provides training in the conduct of their own training; and develops and implements, in cooperation with State and local water pollution control agencies, a system for forecasting manpower and training needs and planning programs to meet these needs.

In 1972, EPA will conduct approximately 40 managerial and technical training courses, training 900 State and local agency personnel

and 700 personnel from industry and other Federal agencies. EPA will initiate a water pollution control manpower study to provide estimated needs for each State.

In 1973, EPA will conduct managerial and technical training at about the same level as in 1972 and will complete the manpower study.

A system of course fees will be applied in 1973 to EPA's direct training. Receipts will be deposited in the U.S. Treasury as general revenues since there is no authority to use such funds for direct program support. Consequently, managerial and technical training in water pollution control will continue to depend on appropriated funds.

The $6,800 decrease represents an adjustment to provide for continuation of the 1972 level of effort.

Abatement and Control
Water Quality
Construction Grants Administration

Justification

1972:	$6,904,500
1973:	6,820,900
Change:	-83,600

	1972	1973	Change
Construction grants administration.....	$6,904,500	$6,820,900	-$83,600

EPA monitors Federal grants awarded to municipal agencies for the construction of waste treatment works. To provide effective management, construction grants administration staffs are maintained at EPA's headquarters and regional offices. These staffs handle the review and processing of grant and contract payments, the review and processing of grant applications and construction plans and specifications, the authorizing of bid advertising, the review of bids and contract awards, periodic inspections, and the collateral responsibilities dealing with prevailing wage, anti-kickback, contract work-hours standards, and civil rights requirements. These staffs also certify the adequacy of projects for eligibility for sewer loans and grants awarded by the Economic Development Administration and the Department of Housing and Urban Development.

In addition to grant processing, this Agency has increased its efforts to assure that treatment facilities constructed with Federal assistance are properly located and planned, are well designed according to the best available technology, are adequately operated and maintained, and are actually or potentially part of a viable, financially self-supporting operating system. Increased emphasis is being placed on optimum waste treatment works design and incorporation into each project of measures for efficient operation and maintenance.

During 1972, Technical Bulletins are being developed to supplement guidance now provided through the "Federal Guidelines for the Design, Operation, and Maintenance of Waste Water Treatment Facilities." These Technical Bulletins will provide more detailed information in specific areas. The topics to be covered will include plant staffing requirements, new advances in technology, and ways to overcome deficiencies in present design practices. Emphasis will be placed on assuring that the technology being developed in the Agency's research, development, and demonstration programs is translated as rapidly as possible into actual use. In its work with applicants, the Agency will make every effort to encourage the use of new techniques and, simultaneously, will identify new research needs for the research and development program. This will require an expanded effort in evaluating present design criteria and practices and keeping abreast of new developments and trends. Increased emphasis is also being placed on

analyzing and providing operation and maintenance data to communities, consulting engineers, and industrial firms for use in improving the design of plant equipment and in modifying operating practices so that sewage treatment facilities can be operated as close to maximum efficiency as possible. The Technical Bulletins and related documents will be issued to supplement existing operation and maintenance guidelines. In-house expertise in solving operation and maintenance problems has been increased and is available to assist local and State personnel with exceptionally difficult cases.

During 1973 the thrust to develop Technical Bulletins will be continued for both treatment technology and operation and maintenance. The Federal design guidelines and operation and maintenance guidelines will be revised and updated early in 1973 to reflect the changes that have occurred. New procedures for plant inspection and surveillance will be implemented and a system for plant performance rating developed and implemented.

The decrease reflects an adjustment to provide for continuation of the 1972 level of effort.

Operations, Research, and Facilities
Abatement and Control

Water Hygiene

Purpose

The Water Hygiene Abatement and Control program is predominantly directed toward providing direct and indirect assistance to State and local agencies to aid them in providing municipal water supplies meeting drinking water standards and protecting the sanitary quality of recreational waters. Assistance is provided through several channels: water resource planning, technical and consultative assistance, training and review of the impact of Federal activities, and federally licensed, permitted, or sponsored activities. The purpose of the program is to foster responsibility on the part of State and local agencies in providing the Nation with safe drinking water supplies and protected, high quality recreational waters.

The program also provides certification of water supplies used by interstate carriers pursuant to the Public Health Service Act and Interstate Quarantine Regulations. This activity is carried out in cooperation with the Food and Drug Administration which has responsibility for regulating and enforcing the use of safe water supplies by interstate carriers.

	1972	1973	Increase or Decrease
Budget Authority			
Standards, guidelines, and regulations	$304,000	$297,200	$-6,800
Monitoring and surveillance	174,000	174,000	...
Planning	218,900	215,500	-3,400
Control agency support	37,000	37,000	...
Technical information and assistance	742,500	725,500	-17,000
Federal activities	67,000	67,000	...
Manpower planning and training	217,900	214,500	-3,400
Total	1,761,300	1,730,700	-30,600
End-of-Year Employment			
Standards, guidelines, and regulations	21	21	...
Monitoring and surveillance	9	9	...
Planning	12	12	...
Control agency support	1	1	...
Technical information and assistance	32	32	...
Federal activities	5	5	...
Manpower planning and training	10	10	...
Total	90	90	...
Man-Years, Total	77	85	8

Summary of Increases and Decreases

	1972	1973	Change
Standards, Guidelines, and Regulations	$304,000	$297,200	$-6,800

An adjustment to provide for continuation of the 1972 level of effort in inspecting and certifying interstate carrier water supplies relative to compliance with Federal Drinking Water Standards.

Monitoring and Surveillance	174,000	174,000	...

Continuation of the 1972 level of effort in maintaining a national inventory and description of municipal water supply systems.

Planning	218,900	215,500	-3,400

A decrease reflecting a lesser degree of involvement and participation in water resource planning relative to providing for adequate municipal water supplies and safe recreational waters.

Control Agency Support	37,000	37,000	...

Continuation of assistance in evaluation of State municipal water supply systems.

Technical Information and Assistance	742,500	725,500	-17,000

An adjustment to provide for continuation of the 1972 level of effort in providing technical assistance to State, local, and other Federal agencies.

Federal Activities	67,000	67,000	...

Maintenance of the 1972 level of effort in reviewing and commenting on environmental impact statements.

Manpower Planning and Training	217,900	214,500	-3,400

An adjustment to provide for continuation of the 1972 level of effort in conducting skill-improvement short-courses and developing training aids.

Abatement and Control
Water Hygiene
Standards, Guidelines, and Regulations

Justification

1972:	$304,000
1973:	297,200
Change:	-6,800

	1972	1973	Change
Standards, guidelines, and regulations.....	$304,000	$297,200	-$6,800

The drinking water certification program provides for classification of all 660 drinking water supplies in the United States which serve interstate carriers including airlines, railroads, and bus lines. Certification enables carriers to utilize these water supplies and indicates that these water systems are in conformity with EPA drinking water standards as developed under provisions of the Public Health Service Act and Interstate Quarantine Regulations. Such standards are related to prevention and control of the spread of communicable diseases. The certification of these water supply systems is coordinated with the Food and Drug Administration which is responsible for maintaining an inventory of water supply points used by interstate carriers and for inspecting such points.

During 1972, EPA will classify all 660 drinking water supplies serving interstate carriers throughout the Nation. Classification is based for the most part on information supplied to EPA by State agencies. To supply supplemental data, however, EPA will conduct surveys of approximately 100 of these drinking water supplies. This same level of activity will be continued during 1973.

The request for 1973 provides for a continuing level of effort. Estimates of program costs indicate that this can be accomplished at a slightly lower cost ($6,800 less) than the 1972 program, primarily as a result of nonrecurring costs for supplies and equipment and other items.

Abatement and Control
Water Hygiene
Monitoring and Surveillance

Justification

1972: $174,000
1973: 174,000
Change: ...

	1972	1973	Change
Monitoring and surveillance.....	$174,000	$174,000	...

EPA updates and maintains an inventory of municipal water supply facilities which provides a record of all municipal water supply systems in the United States serving a population of 25 or more. This inventory is used to provide a national assessment of municipal water supply systems and for information used in water resource and water supply planning studies by EPA, State, local, and other Federal agencies.

During 1972, a computerized storage and retrieval system is being developed to facilitate handling of the inventory data. In addition, collection and processing of the data is being initiated. This entails aquisition of detailed information on water supply facilities from State and municipal agencies.

During 1973, the major updating effort will be completed and operation of a continuous update process will be initiated.

No change in funding is requested for 1973.

Abatement and Control
Water Hygiene
Planning

Justification

1972:	$218,900
1973:	215,500
Change:	-3,400

	1972	1973	Change
Planning.....	$218,900	$215,500	-$3,400

Water supply planning is directed toward assuring adequate water supplies now and in the future for metropolitan areas, small towns, and rural areas. Present water supply shortages must be solved and new ones prevented. Water supply systems need to be stregthened and, where appropriate, consolidated into more efficient and viable units. Adequate planning is required to achieve these purposes.

Primary emphasis in 1972 is being given to studies of metropolitan water supply systems and the quality of raw water used by these systems. An inventory of information on these systems is being developed. This, in turn, is being followed by a pilot study of institutional arrangements for providing drinking water to consumers. These studies will be completed in 1973.

Consultation and assistance to State and local planners and development of health aspect appendices for water resource studies will continue at about the same level during 1972 and 1973. The latter activity is in support of the broad water resource program of the Water Resources Council.

The small decrease represents an adjustment which will permit continuance of the 1972 level of effort.

Abatement and Control
Water Hygiene
Control Agency Support

Justification

1972:	$37,000
1973:	37,000
Change:	...

	1972	1973	Change
Control agency support	$37,000	$37,000	...

This program covers assistance provided to State agencies in evaluating State water hygiene programs as well as the adequacy of municipal water supply systems within the States. This effort is an outgrowth of the selected survey of water supply systems which was conducted throughout the country in 1970-1971 and which revealed deficiencies in many systems. The work is intended to identify and correct any such deficiencies in the programs and water systems of selected States and to develop procedures by which State agencies can better detect and prevent deficiencies from occurring in the future.

In 1972, effort has been directed primarily to assistance to the State of Vermont, provided through the assignment of EPA personnel. Support to the Vermont program is expected to be completed early in 1973; however, assistance will be shifted to other areas of need. This work will continue through 1973 with no increase in funding.

Abatement and Control
Water Hygiene
Technical Information and Assistance

Justification

1972:	$742,500
1973:	725,500
Change:	-17,000

	1972	1973	Change
Technical information and assistance.....	$742,500	$725,500	-$17,000

Technical support is provided to State and local water supply agencies on a wide variety of problems ranging from sample analysis to total program evaluations. Detailed assistance is provided on specific program, operating, and technical problems. Such assistance covers drinking water treatment technology and its application, laboratory analysis, spot training for specific problems, and consultation on complex problems. Broad assistance is provided through detailed evaluations of State water hygiene programs, including analyses of legal authority, program structure, staffing, laboratory facilities, and water supply inspection programs. The findings and recommendations from these evaluations are provided to the State water hygiene agencies and direct staff assistance is provided, on request, to aid in carrying out the recommended improvements.

Assistance is being provided to all States and territories within the limits of available resources during 1972. Detailed State evaluations will be completed in 10 States, with follow-up assistance as needed to help strengthen State programs.

The same basic level of assistance is planned for 1973. A total of 10 State evaluations are planned. Consultative and other technical assistance will be provided to agencies, as requested.

The decrease for 1973 represents an adjustment to provide for continuance of the 1972 level of effort.

Abatement and Control
Water Hygiene
Federal Activities

Justification

1972:	$67,000
1973:	67,000
Change:	...

	1972	1973	Change
Federal activities.....	$67,000	$67,000	...

Environmental impact statements prepared and submitted by other Federal agencies on proposed projects or activities are reviewed and comments prepared relative to the probable impact of the project or activity on municipal water supplies and/or recreational water uses. This activity involves not only the review of final impact statements but also the review of draft statements. It also encompasses provision of technical assistance and advice to other Federal agencies on factors to be considered in evaluating environmental impacts and preparing statements.

In addition to impact statements, application for Federal licenses and permits are submitted to EPA for review and comments, and in some cases certification, prior to issuance by the licensing or permitting agency. EPA provides such reviews and provides assistance to the States in reviewing and certifying such applications relative to impact on municipal water supplies and recreational water uses.

During 1972, 545 environmental impact statements are being reviewed and comments prepared. Assistance or consultation is being provided on approximately 258 of these projects. An additional 1,082 license or permit applications are being reviewed, with comments.

The number of environmental impact statements and license and permit applications to be reviewed in 1973 will continue at approximately the 1972 level.

It is estimated that the 1973 level of activity can be accomplished at the same level of funding because of experience gained in the program during the past two years and because of administrative efficiencies achieved through integration of this program with that inherited from the Federal Water Quality Administration.

Abatement and Control
Water Hygiene
Manpower Planning and Training

Justification

1972:	$217,900
1973:	214,500
Change:	-3,400

	1972	1973	Change
Manpower planning and training...	$217,900	$214,500	-$3,400

The 1971 survey of the Nation's water supply systems revealed many systems with serious deficiencies in operation and maintenance resulting from inadequately trained operating personnel. To address these problems, EPA provides short-term, skill-improvement training for personnel of agencies having water supply responsibilities. In addition, assistance is provided to State and local agencies in evaluating their training needs, in developing training programs, and in developing training courses and aids and materials.

During 1972, approximately 400 people are receiving training through the presentation of 25 short courses. In addition, training aids and films are being developed and made available for training courses sponsored by State and trade association personnel. These activities will be continued through 1973, with the course content being continuously upgraded and expanded and the number of training aids and films increased. The funding requirements for 1973 are estimated to be only slightly less than for 1972. A system of course fees will be applied in 1973 to EPA's direct training programs. Receipts will be deposited in the U.S. Treasury as general revenues since there is no authority to use such funds for direct program support. Consequently, direct training in water hygiene will continue to depend on appropriated funds.

Operations, Research, and Facilities
Abatement and Control

Solid Wastes

Purpose

Included under the Solid Waste Abatement and Control program are the development of guidelines, operation of an information data system, and provision of assistance in the form of training, planning ,and technical advice. The purpose is to illustrate and encourage the use of the most advanced practices of solid waste management and technology and to assist in creating institutional change at the local level to improve labor productivity and provide sound local financing support for waste management.

This program assists State, local, and private agencies by: developing guidelines for use in establishing model codes, ordinances, and statutes; collecting and disseminating information on municipal solid waste management practices; providing planning assistance to improve solid waste management systems; providing technical support in the form of technical literature, data, and advice; providing solid waste management curriculum material and professional and operator training; developing and applying mandatory guidelines for improved solid waste management practices at Federal facilities; and developing an inventory of waste management practices at Federal facilities and providing them with technical assessments and assistance.

Budget Authority	1972	1973	Increase or Decrease
Standards, guidelines, and regulations.....	$629,000	$400,000	-$229,000
Monitoring and surveillance...	405,000	400,000	-5,000
Planning.....	3,065,800	5,908,800	2,843,000
Technical information and assistance.....	1,759,700	2,538,200	778,500
Federal activities.....	412,800	327,700	-85,100
Manpower planning and training	1,343,200	1,289,900	-53,300
Total.....	7,615,500	10,864,600	3,249,100

	1972	1973	Increase or Decrease
End-of-Year Employment			
Standards, guidelines, and regulations.....	21	24	3
Monitoring and surveillance...	6	6	...
Planning.....	22	22	...
Technical information and assistance.....	58	68	10
Federal activities.....	27	27	...
Manpower planning and training	13	13	...
Total.....	147	160	13
Man-Years, Total.....	130	146	16

Summary of Increases and Decreases

	1972	1973	Change
Standards, Guidelines, and Regulations	$629,000	$400,000	-$229,000

An adjustment reflecting reduced resources needed to finalize solid waste management guidelines which are substantially completed and to initiate work preliminary to future guidelines.

Monitoring and Surveillance	405,000	400,000	-5,000

An adjustment to provide for continuation of solid waste management data collection program.

Planning	3,065,800	5,908,800	+2,843,000

To expand grant support to local and regional agencies to develop an adequate State and local solid waste management planning capability.

Technical Information and Assistance	1,759,700	2,538,200	+778,500

To provide increased technical assistance especially to the local level.

Federal Activities	412,800	327,700	-85,100

A decrease resulting from a change in emphasis from conducting an inventory and giving general assistance to concentrating on guideline implementation.

Manpower Planning and Training	1,343,200	1,289,900	-53,300

A decrease reflecting a change in priorities from the funding of graduate training grants to providing professional and special training by working through solid waste management professional organizations.

Abatement and Control
Solid Wastes
Standards, Guidelines, and Regulations

Justification

1972:	$629,000
1973:	400,000
Change:	-229,000

	1972	1973	Change
Standards, guidelines, and regulations.....	$629,000	$400,000	-$229,000

The Resource Recovery Act of 1970 requires that EPA develop solid waste management guidelines. These guidelines are published in the Federal Register and are made available to State, local, and private agencies to be used to develop model codes, ordinances, and statutes for assisting and promoting improved solid waste management. The guidelines are mandatory for federally operated and licensed solid waste management activities. Demonstration grants for resource recovery and improved solid waste management systems must conform to guidelines established under the Act.

During 1972, guidelines for sanitary landfill operation and incineration will be completed for publication in the Federal Register. Another activity scheduled for 1972 is the development of state-of-the-art reports on the financing, management, and operation of rural collection and disposal systems. Also, studies will be initiated to support state-of-the-art reports for transfer/transporatation systems and storage and collection for high rise buildings.

In 1973, the documents initiated in 1972 will be completed. In addition, a document on hospital waste storage and collection will be completed.

The decrease of $229,000 reflects the reduced resources needed to finalize reports on transfer and transportation systems and storage and collection for high rise buildings. Activity will be substantially completed toward developing these during 1972. The decrease also reflects the reduced resources needed to initiate work preliminary to the development of future guidelines.

Abatement and Control
Solid Wastes
Monitoring and Surveillance

Justification

1972:	$405,000
1973:	400,000
Change:	-5,000

	1972	1973	Change
Monitoring and surveillance....	$405,000	$400,000	-$5,000

The solid waste monitoring and surveillance program consists of a National Solid Waste Data Network (NSWD) that collects and disseminates information on various aspects of municipal solid waste management, including collection and disposal practices and capital and operating costs. Solid waste management is typified by a lack of uniform, continuous, and reliable basic data. The NSWD was created to rectify this situation. The objective of this data network will be to obtain an accurate characterization of community solid waste handling programs and a data base to share with State and local agencies.

In 1972, the network will be expanded from three to 12 Standard Metropolitan Statistical Areas (SMSA's) and will provide additional accuracy in data elements and include information on the amortization of capital expenses in solid waste management systems.

For 1973, the network will continue to collect data from the 12 SMSA's. In addition, the information obtained from these metropolitan areas will be integrated with technical assistance, planning, and systems management demonstrations to concentrate an array of technical and management tools on specific solid waste management problems. This concept is essential to the goal of assisting communities and institutions to upgrade solid waste practices through improved management and technologies. In support of the above concept, data on special studies will be collected for dissemination including information on one-man collection systems, transfer stations, and incinerator operation.

The slight decrease of $5,000 will enable the NSWD to keep pace with 1972 demands in gathering and disseminating information from selected SMSA's.

Abatement and Control
Solid Wastes
Planning

Justification

1972:	$3,065,800
1973:	5,908,800
Change:	+2,843,000

	1972	1973	Change
Planning grants.....	$3,065,800	$5,908,800	+$2,843,000

The overall objective of the solid waste planning grant program is to improve solid waste management by assisting State, interstate, regional, and local agencies in developing meaningful, comprehensive plans for achieving solutions to solid waste management problems. The solid waste management plans describe present and projected solid waste conditions, establish control objectives, and set forth a schedule of action for meeting these objectives. State and interstate plans are broad-gauged, establishing general strategy, while local and regional plans are more specific and operationally oriented. Although not a legal requirement, plans are submitted to EPA for evaluation and approval.

During 1972, 36 State and interstate projects are being supported. Three State and interstate plans are scheduled for completion in 1972. Under authority provided by the Resource Recovery Act of 1970, planning grants are also awarded to provide for local and regional planning. The local and regional plans are oriented to operations dealing directly with the special solid waste problems of a particular locality and the practical aspects (equipment, facilities, personnel, procedures, and organization) of the solutions. In 1972, 18 local and regional projects are being supported. Four local and regional plans are scheduled for completion in 1972.

During 1973,an estimated 26 State and interstate planning projects will be supported. About 10 State and interstate plans are scheduled for completion. In addition, approximately 60 local and regional planning grants will be awarded with about 30 to be completed.

The increase of $2,843,000 is requested to expand support for local and regional planning. Such planning is urgently needed to build on the basis provided by the State and interstate plans and to influence community solid waste management practices directly.

Allocation of Solid Wastes Planning Grants

To States and Territories

State or Territory	1972	1973
Alaska	$31,685	$29,290
Arizona	28,149	20,000
California	79,275	...
Colorado	24,250	...
Connecticut	81,554	...
Florida	35,000	...
Georgia	7,000	25,000
Idaho	24,636	10,000
Illinois	148,899	98,867
Indiana	...	20,000
Iowa	22,703	22,703
Kentucky	42,186	...
Maine	20,000	...
Maryland	45,000	...
Massachusetts	32,094	...
Michigan	77,359	...
Minnesota	76,827	...
Mississippi	30,000	...
Missouri	22,697	20,000
Montana	37,065	30,000
Nebraska	...	23,311
Nevada	14,211	14,785
New Hampshire	14,500	12,500
New Mexico	35,000	30,000
New York	150,000	...
North Carolina	19,000	...
North Dakota	...	15,000
Ohio	55,000	...
Oregon	18,684	25,000
Pennsylvania	166,027	...
Rhode Island	...	15,000
South Dakota	15,000	12,000
Texas	51,029	...
Utah	12,028	12,000
Vermont	24,250	20,000

State or Territory	1972	1973
Washington	$62,000	$50,000
West Virginia	35,000	...
Wisconsin	...	60,000
Wyoming	...	14,000
American Samoa	34,800	34,000
Guam	28,275	25,000
Puerto Rico	30,000	28,000
Virgin Islands	...	85,000
Total*	1,631,183	751,456

*Regional and local planning grants are not included.

Abatement and Control
Solid Wastes
Technical Information and Assistance

Justification

1972:	$1,759,700
1973:	2,538,200
Change:	+778,500

	1972	1973	Change
Technical information and assistance.....	$1,759,700	$2,538,200	+$778,500

Technical assistance on all aspects of storage, collection, processing, disposal, and resource recovery is provided to States, local agencies, and individuals to bring about improvement of solid waste management systems and solutions to operational problems. Technical information is also assembled, published, and disseminated to public and private agencies, organizations, and individuals to acquaint them with new and existing technology and management practices.

During 1972, approximately 2,500 requests for assistance will be responded to. Responses range from technical letter reports discussing solutions to a specific problem to comprehensive reports of field studies discussing problem solutions that apply to many locations. An estimated 1,800 open dumps will be eliminated or converted to sanitary landfills under the Mission 5,000 program. This program has as its objective the closing or conversion to sanitary landfills of 5,000 open dumps.

For 1973, the number of assistance requests will rise, but more significantly, assistance efforts will be targeted on areas which have a capacity to implement improvement. Under the Mission 5,000 program, some 2,800 open dumps are expected to be closed or converted to sanitary landfills.

The increased resources will be used to provide additional expertise at the regional level to bring the technical assistance activities closer to the concerned agencies, groups, and individuals. Emphasis will be given to attaining institutional changes necessary to upgrade current municipal solid waste systems through application of available technology and better management. Technical assistance will be integrated with other solid waste management programs such as planning and systems demonstrations in developing comprehensive assistance packages directed toward the solution of problems at specific localities.

Abatement and Control
Solid Wastes
Federal Activities

Justification

1972:	$412,800
1973:	327,700
Change:	-85,100

	1972	1973	Change
Federal activities.....	$412,800	$327,700	-$85,100

As required by the Resource Recovery Act of 1970, a program is being conducted to implement improved solid waste management practices at Federal facilities. This Act requires Federal agencies to comply with applicable Federal guidelines for solid waste management at their installations. Technical assistance to upgrade solid waste management practices and achieve solutions to specific problems is provided to those facilities. Selected facilities are designated on a priority basis for survey and monitoring to insure compliance. In addition, in keeping with the National Environmental Policy Act of 1969, Federal agency environmental impact statements are reviewed in terms of their solid waste implications.

During 1972, solid waste disposal and incineration guidelines will be developed and adapted to Federal facilities. Technical assistance will be provided by headquarters and regional office staffs in response to about 250 significant inquiries.

For 1973, activity will be focused on implementing the solid waste disposal and incineration guidelines that were adapted to Federal facilities during 1972. An estimated 230 significant requests for technical assistance will be complied with in an effort to upgrade solid waste management practices and achieve compliance with guidelines.

The decrease of $85,100 reflects a change in emphasis from conducting a comprehensive inventory of Federal facilities and giving general assistance, to concentrating effort on implementing solid waste guidelines that are mandatory for Federal agencies. Assistance in the form of responses to inquiries relating to specific engineering and management needs will be directed to this implementation effort.

Abatement and Control
Solid Wastes
Manpower Planning and Training

Justification

1972:	$1,343,200
1973:	1,289,900
Change:	-53,300

	1972	1973	Change
Manpower planning and training.....	$1,343,200	$1,289,900	-$53,300

Success in solving the Nation's solid waste problem is to a great extent dependent upon the availability of qualified solid waste collection, disposal, and processing systems personnel. Training and manpower programs directed to meeting this need include support for those embarking on professional careers in solid waste management as well as for State and technical institutions to establish training programs for operator and technical personnel. Short-course training and curriculum development by EPA training staff are oriented to Federal, State, local, and private agency personnel who are either just beginning their environmental careers or who need to upgrade their solid waste management skills. Also, a modest manpower planning activity is carried on to give direction to the training effort and maintain a profile of the Nation's solid waste management training needs.

During 1972, graduate training in solid waste management will be supported by grants to 12 universities. Additional grants will go to 12 States for the training of operator and supervisory personnel for local solid waste systems. Direct training of 1600 in-house and professional and specialist solid waste management personnel is planned for 1972. This total represents about 30 short-course presentations of three to four day duration covering aspects of municipal solid waste management and technology. In addition, a new safety training package for solid waste collection personnel will be added to the curriculum. The manpower study required by the Resource Recovery Act of 1970 will be completed in 1972.

For 1973, graduate training at universities will be supported at a reduced level. This activity is being scaled down in 1973 in keeping with an EPA policy to encourage more assumption of responsiblity for environmental graduate training by non-Federal sources so that EPA may direct its funds to other forms of training with greater immediate impact in meeting pollution control manpower needs. Grants to States in support of solid waste operator and supervisory personnel training will be continued. Direct training activities will continue at a level comparable with 1972. A system of course fees will be applied in 1973 to EPA's direct training

programs. Receipts will be deposited in the U.S. Treasury as general revenues, since there is no authority to use such funds for direct program support. Consequently, direct training in solid wastes will continue to depend on appropriated funds. New courses will be developed for professional and specialists solid waste personnel including a course on new collection equipment, incinerator and sanitary landfill operation, and a new solid waste management series directed to municipalities covering organization concepts, labor relations, and financing mechanisms.

The decrease of $53,300 impacts largely on graduate training and manpower planning, with small reductions in State agency and in-house training. These decreases are partially offset by an increase in course development and training to be implemented through contracts with solid waste professional and technical organizations. A reduction for solid waste manpower planning results from completion in 1972 of the manpower study required by the Resource Recovery Act of 1970. Slight reductions will not notably affect the level of activity planned for State agency support and in-house training. The increase for course development and training will be used to develop new courses for both solid waste operators and management personnel that can be presented by either EPA staff or through professional and technical solid waste organizations as to have maximum impact on day-to-day solid waste operations.

Operations, Research, and Facilities
Abatement and Control

Pesticides

Purpose

EPA's Pesticides Abatement and Control program is predominantly directed toward regulation of pesticides through registration of pesticide products under authority of the Federal Insecticide, Fungicide, and Rodenticide Act and the setting of pesticide residue tolerances under authority of the Food, Drug, and Cosmetic Act. These activities are closely supported by EPA's pesticide research and enforcement programs, both of which are discussed in other sections.

Other key elements of the program are the monitoring and surveillance of environmental levels of pesticides, studies of effects of pesticides on human health, and investigation of pesticide accidents. These activities provide much of the information needed to effectively carry out the registration and tolerance petition programs.

Finally, the program includes provision of technical assistance and information to State and local regulatory and health agencies and other Federal agencies, and provision of training and training assistance to improve the knowledge and technical capabilities of Federal, State, and local personnel involved in pesticide activities.

	1972	1973	Increase or Decrease
Budget Authority			
Standards, guidelines, and regulations	$3,954,500	$3,688,600	-$265,900
Monitoring and surveillance	6,576,500	7,541,300	964,800
Technical information and assistance	726,900	1,029,200	302,300
Manpower planning and training	211,100	214,100	3,000
Total	11,469,000	12,473,200	1,004,200
End-of-Year Employment			
Standards, guidelines, and regulations	221	207	-14
Monitoring and surveillance	173	188	15
Technical information and assistance	29	42	13
Manpower planning and training	9	9	...
Total	432	446	14
Man-Years, Total	369	396	27

Summary of Increases and Decreases

	1972	1973	Change
Standards, Guidelines, and Regulations	$3,954,500	$3,688,600	-$265,900
Product registration.....	2,906,500	3,332,600	+426,100

To improve the efficiency and effectiveness of processing pesticide-label registration applications, including renewal registrations.

Tolerance setting.....	1,048,000	356,000	-692,000

A proposed decrease in appropriated funds to be offset by increased Revolving Fund receipts generated by increasing tolerance petition fees.

Monitoring and Surveillance	6,576,500	7,541,300	+964,800
Community studies.....	3,592,000	4,193,000	+601,000

To expand the community studies program to two additional areas and to expand studies currently underway to improve the statistical validity of the epidemiological data on the health effects of exposures to pesticides.

Monitoring.....	2,984,500	3,348,300	+363,800

To expand joint Federal/State investigations of pesticide accidents; to improve laboratory capabilities for analyzing pesticide product samples; and to continue the 1972 level of effort in monitoring pesticide residues in soils, air, human tissue, and estuaries, nationwide.

Technical Information and Assistance	726,900	1,029,200	+302,300

To provide for assignment of one pesticide generalist in each region to assist States in improving their pesticide controls and user monitoring. To enlarge the Agency's technical information base and improve capabilities to respond to informational requests.

Manpower Planning and Training	211,100	214,100	+3,000

An adjustment to provide for continuation of the 1972 level of effort in assisting the States in training programs for State laboratory personnel and pesticide applicators.

Abatement and Control
Pesticides
Standards, Guidelines, and Regulations

Justification

1972:	$3,954,500
1973:	3,688,600
Change:	-265,900

	1972	1973	Change
Product registration.....	$2,906,500	$3,332,600	+$426,100

The Federal Insecticide, Fungicide, and Rodenticide Act requires that all pesticide products moving in interstate commerce be registered with EPA. The product registration program implements this provision of the Act. Applicants for registration must submit data showing the ingredients of their product, the purposes for which it is to be used, including the pests which it is intended to control and the crops or other areas on which it is to be applied, the directions for use of the product, and safety precautions to be followed to prevent accidental injury or environmental damage. A copy of the proposed labeling is required and results of safety and efficacy tests may also be required. Applications are reviewed to determine whether the product is safe and efficacious and meets the other requirements of the law and applicable regulations. If products satisfy all requirements, they are registered. Scientific data is continuously reviewed, as is information developed by the enforcement, monitoring and surveillance programs to determine if products in use comply with requirements, and if they pose environmental hazards. Improvements in use directions or safety precautions are instituted as necessary. Products causing environmental hazards may have their registrations cancelled or, in cases of imminent hazard, suspended.

During 1972, the product registration program is making considerable progress in improving the rate of review for registration applications. In February 1971, approximately 5,000 applications were on hand with a median age of 60-90 days. By December 1971, the number of applications on hand had been reduced to about 2,200, with a median age of less than 60 days. During the year, about 27,000 registration applications, including renewals, amendments, and temporary permits, are being processed.

The results of some 5,500 product sample analyses will be reviewed and reported to the enforcement group in 1972. During 1973, it is proposed to further improve both the time of review (toward a goal of 45 days) and the depth of review of applications. The expected number of applications of all types in 1973 is 25,000.

Some 6,000 product sample analyses will be assessed by the technical staff for possible enforcement action. Another 2,000 analyses will be reviewed prior to product reregistration. To carry out the proposed 1973 program with its improved and accelerated processing of applications,

an increase of $426,100 is requested. This increase will cover the full-year employment cost of new positions filled in 1972 and the partial-year employment cost of 20 new positions to be filled in 1973 to enable the processing improvements proposed.

It is intended in 1973 to initiate a system of registration fees to collect approximately $3,000,000. These receipts will be deposited in the U.S. Treasury as general revenues; accordingly, appropriated monies will be required to fund the program. The fees will be collected under the authority of the User Charge Act (31 USC 483a). Although a schedule of fees has not yet been developed, it is anticipated that a system of differently priced fees for different classes of applications will be instituted and that the individual fees will represent a relatively minor cost to the applicant when compared to the sales revenues of the products marketed under the respective registration.

	1972	1973	Change
Tolerance setting.....	$1,048,000	$356,000	-$692,000

Pesticide chemicals intended for application on human food or animal feed crops must have tolerances for residues established under the provisions of the Food, Drug, and Cosmetic Act. Tolerance levels are established for pesticide chemicals in or on specified raw agricultural commodities to protect consumers from toxic effects. Tolerance petitioners must provide evidence that the proposed tolerance level is safe and that it will not exceed levels expected to be found when the product is used as directed. A method for detecting the residue must also be provided. EPA reviews the petitioners' data to determine its compliance with the law and applicable regulations and publishes the tolerance in the Federal Register.

During 1972, the average number of registrant petitions under review is 150. As with processing of registration applications, emphasis has been given to improving review and handling capabilities and reducing overall processing time.

During 1973, it is expected that the average level of all types of tolerance petitions received will be 200. In addition, approximately 20 previously issued tolerances will be re-examined in the light of current scientific knowledge of the environmental effects of pesticides.

Tolerance petition fees very according to the number of tolerances and commodities involved and range between $3,000 and $4,500. There are other fees for temporary tolerances, withdrawals of petitions within six months, etc. During 1972, fees are projected to aggregate to $309,000. These receipts are credited to a Revolving Fund and are used to defray a part of the cost of the tolerance petition program. The remaining costs of the program, $1,048,000, are covered by appropriated funds.

It is proposed to increase the schedule of fees for petitions in 1973 to enable the collection of $1,109,000. This increase will cover the costs of 34 positions formerly paid with appropriated funds, permitting the reduction of 34 positions in the Operations, Research, and Facilities account. These receipts will continue to be credited to a Revolving Fund to defray the cost of the program. It is further proposed to discontinue the waiver of fees for petitions submitted by Federal and State agencies, universities, and nonprofit organizations. It is estimated that a part of the cost of the program, $356,000, will not be covered by fee receipts, and accordingly, an appropriation in this amount is requested in 1973 for the program. In summary, the proposed increase of fees will enable a $692,000 decrease in appropriated funds for the program for 1973.

Abatement and Control
Pesticides
Monitoring and Surveillance

Justification

1972:	$6,576,500
1973:	7,541,300
Change:	+964,800

	1972	1973	Change
Community studies.....	$3,592,000	$4,193,000	+$601,000

The community studies program encompasses epidemiological and toxicological studies to determine the health effects to human population groups exposed in various ways to pesticides. The objectives of the studies are to identify the sources and magnitude of pesticide exposure in various areas and to study and assess the cause and effect relationships between exposures and health reactions for different groups of people. The results of these studies provide necessary scientific knowledge for the review of product registration applications and tolerance petitions and provide information for EPA's technical assistance activities.

During 1972, the community studies program is supporting, through contracts, studies by 14 State universities, medical schools, and health departments. In-house efforts are devoted to coordination of these studies and analysis and assessment of these results. New studies on mutagenesis, sputum cytology, and retrospective morbidity and mortality are being undertaken.

During 1973, it is proposed to expand the community studies program to cover a larger population base and to collect more information to improve the statistical validity of the results. The number of studies will be increased from 14 to 16 and two of the ongoing studies will be expanded in scope and effort.

An increase of $601,000 is requested in 1973 to carry out the expanded program. This expansion will significantly increase the amount and quality of results produced by the program and thereby will provide EPA with a significantly greater and better information base on which to review registration applications and tolerance petitions and on which to advise and assist State, local, and other Federal agencies in addressing pesticide pollution problems and designing and conducting pest control programs.

	1972	1973	Change
Monitoring.....	$2,984,500	$3,348,300	+$363,800

The pesticides monitoring program includes a residue profile program to study and monitor pesticide residues in soils, crops, air, human tissue, and estuaries throughout the country; the investigation of pesticide accidents; and the chemical and biological analyses of pesticide products available on the market and pesticide chemicals currently or potentially incorporated in pesticide products. The residue profiles program provides data useful to the registration and tolerance petition programs and also necessary for making national, regional, and local assessments of pesticide levels and their possible impact on the environment. The accident investigation program is a joint Federal-State program to report and investigate accidental poisonings and spills and other incidents involving pesticides. Information generated by this program will be used to improve procedures for use, handling, transportation, and storage of pesticides to improve safety and prevent future accidents. The sample analysis program analyzes pesticide products obtained in the marketplace to be sure that they are quantitatively and qualitatively in compliance with the statements made in their registrations and are otherwise in compliance with the law. Current efforts include chemical analysis and safety and performance testing. This program also provides chemical and biological analyses of pesticide products and chemicals in direct support to the registration and tolerance petition programs.

During 1972, in the residue profiles program, soil samples are being collected from 36 States and 15 urban areas and are being analyzed for pesticides and heavy metals. Ambient air is being sampled at 36 sites in 31 States. Estuarine shellfish, silt, water, and planketon are being collected from 159 sites in 14 States. The joint Federal-State accident investigation program was operational in four regions early in the year. To date in 1972, about 275 incidents have been investigated. In the sample analysis program, about 5,500 product samples are being analyzed to determine if their active ingredients, safety in use and handling, and biological effectiveness comply with the statements made in their registration and with other provisions of the law.

In 1973, it is proposed to expand the accident investigation program to all ten regions and to handle up to 2,000 incidents during the year. It is further proposed to improve the capability of the sample analysis program and to analyze approximately 6,000 samples. The residue profiles program will be maintained at its 1972 level.

To carry out the proposed 1973 monitoring programs, an increase of $363,800 is requested. Of this, $175,000 will be devoted to expansion of the accident investigation program and the remainder to the sample analysis program. The expansion of the accident investigation program is of critical importance not only to achieve national coverage, but also to improve EPA's capacity to secure the valuable information that can be obtained from such investigations for use in review of registration applications and in provision of technical assistance. The increase for the sample analysis program is needed to enable this program to provide an adequate level of support for the registration and tolerance petitions programs and the pesticide enforcement programs.

Abatement and Control
Pesticides
Technical Information and Assistance

Justification

1972: $726,900
1973: 1,029,200
Change: +302,300

	1972	1973	Change
Technical assistance.....	$726,900	$1,029,200	+$302,300

EPA provides technical information and assistance to State, local, and other Federal agencies concerned with pesticide problems. Forty-eight States have enacted some form of regulatory legislation concerning pesticides. EPA attempts to obtain uniformity of registered pesticide uses through liaison with State regulatory agencies. State health agencies are also provided with support, either by contract or by detailed personnel, in dealing with health problems and other problems related to pesticides. Technical assistance is given to other Federal, State, and local agencies engaged in the operation or management of pest control programs to aid them in identifying the potential environmental impacts associated with use of various chemicals and application methods. Finally, EPA collects and disseminates information on pesticides to interested Federal, State, and local agencies and to scientists with a research interest in pesticides.

During 1972, 14 State agencies are being assisted through contracts or by detail of EPA personnel. Additionally, consultative assistance is being given to State, local, and other Federal agenices, on request, to the extent of the Agency's current capabilities. With respect to dissemination of information, two technical periodicals are being published and approximately 2,000 requests for literature searches or reprints of scientific articles are being handled.

In 1973, it is proposed to strengthen the technical assistance program through placing a pesticide generalist in each of the ten regional offices. The same functions performed in 1972 will be pursued, but involvement of the regional offices will greatly strengthen the program by improving contact and familiarity with the problems being faced. In addtion, the technical information system will be expanded to include registration and tolerance data on a current basis, as well as the monitoring and research information currently being produced. A small increase in staff will be made to improve the capability to respond to requests for information and to handle a greater number of requests (2,600). The publication of two technical periodicals will continue.

An increase of $302,300 is requested to carry out the expanded 1973 program, as proposed. The essential element of this increase will be the addition of expertise in the regional offices. This will enable EPA to give immediate and direct assistance to other agencies to aid them in solving complex pesticide pollution problems and preventing other such problems. Expansion of the technical information system is important not only from the standpoint of providing a greater information base to its users but also because it will make considerably more accessible the data and information already on hand in the registration, tolerance petition, and monitoring programs.

Abatement and Control
Pesticides
Manpower Planning and Training

Justification

1972:	$211,100
1973:	214,100
Change:	+3,000

	1972	1973	Change
Training.....	$211,100	$214,100	+$3,000

The pesticide training program provides technical training to State, local, Federal, and industry personnel in pesticide residue analytical techniques. State and local pesticide control personnel are also given training in the epidemiology and public health impacts of pesticides. Course materials are developed to improve the technical expertise and safety practices of pesticide applicators.

During 1972, approximately 150 laboratory personnel are being given technical training in pesticide residue analytical techniques at EPA's Perrine Laboratory, Florida. Approximately 1,000 State health agency personnel and others are attending training sessions given by the Agency at several locations. Two pilot level courses for State personnel are being given at Chamblee, Georgia, to test the training curricula developed by EPA for training pesticide applicators in the importance of and in methods for protecting the environment.

During 1973, this program will continue at its current level. A slight increase of $3,000 will be required and is requested for this purpose. A system of course fees will be applied in 1973 to EPA's direct training programs. Receipts will be deposited in the U.S. Treasury as general revenues, in accordance with the provisions of the User Charge Act (31 USC 483a), since there is no authority to use such funds for direct program support. Consequently, direct training in pesticides control will continue to depend on appropriated funds.

Operations, Research, and Facilities
Abatement and Control

Radiation

Purpose

A primary focus of the Radiation Abatement and Control program is toward EPA's responsibilities for establishing the basic policies which guide all Federal radiation protection activities and for setting specific standards which limit discharges of radiation into the general environment. This effort is closely supported by the Radiation Research and Development program.

Other key elements of the program contribute to the guidelines and standards effort and toward improvement of State, local, or other Federal radiation control programs. They include environmental radiation monitoring, provision of technical assistance to other governmental agencies, review of federally supported or licensed activities involving environmental radiation, and support of training programs.

	1972	1973	Increase or Decrease
Budget Authority			
Standards, guidelines, and regulations	$593,600	$762,400	$168,800
Monitoring and surveillance	1,404,600	1,541,500	136,900
Technical information and assistance	373,900	380,900	7,000
Federal activities	864,500	981,500	117,000
Manpower planning and training	1,068,600	827,900	-240,700
Total	4,305,200	4,494,200	189,000
End-of-Year Employment			
Standards, guidelines, and regulations	13	13	...
Monitoring and surveillance	80	80	...
Technical information and assistance	19	19	...
Federal activities	54	60	6
Manpower planning and training	11	11	...
Total	177	183	6
Man-Years, Total	158	171	13

Summary of Increases and Decreases

	1972	1973	Change
Standards, Guidelines, and Regulations	$593,600	$762,400	+$168,800

To complete the assessment and possible development of environmental protection standards covering the entire nuclear fuel cycle, particularly for nuclear fuel reprocessing plants, and to initiate studies to develop information required for establishment of a standard for the liquid metal fast-breeder reactor.

Monitoring and Surveillance	1,404,600	1,541,500	+136,900

To continue development of the National Environmental Radiation Monitoring Program, so as to obtain improved information on population exposures on a national basis.

Technical Information and Assistance	373,900	380,900	+7,000

An adjustment to provide for continuation of the 1972 level of effort in providing technical assistance to State and other agencies.

Federal Activities	864,500	981,500	+117,000

To expand staff effort, including field data acquisition, necessary for review of the increased number of more technically complex environmental impact statements.

Manpower Planning and Training	1,068,600	827,900	-240,700
Training grants and fellowships.....	800,000	569,500	-230,500

To decrease graduate training grants so as to implement a revised Agency policy.

Direct training.....	268,600	258,400	-10,200

An adjustment to provide for continuation of the 1972 level of effort in providing short-course, skill-improvement, training courses.

Abatement and Control
Radiation
Standards, Guidelines, and Regulations

Justification

1972:	$593,600
1973:	762,400
Change:	+168,800

	1972	1973	Change
Standards, guidelines, and regulations	$593,600	$762,400	+$168,800

EPA has two primary responsibilities associated with radiation protection guidance and standards. The first of these involves the formulation of basic Federal policies on radiation protection and the development of Radiation Protection Guidelines which are to be followed by all Federal agencies concerned with radiation control. This was the function exercised by the Federal Radiation Council prior to establishment of EPA. The second responsibility is for the establishment of environmental protection standards which limit radiation levels in the general environment outside the boundaries of nuclear power plants or other radiation producing installations.

During the current fiscal year, work in the area of basic radiation protection policies is centered around a major review of the scientific bases for existing guidelines. This review has been undertaken in response to growing concern about the potential hazards associated with the expanding nuclear energy industry. It is a long-range undertaking and involves expert assistance from several other Federal agencies, the National Academy of Sciences, and the National Council for Radiation Protection and Measurements. An EPA posture with respect to environmental standards is being developed which takes into account health risks, currently available control technology, and cost/benefit considerations in setting limitations applicable to specific classes of radiation sources or facilities.

During 1973, the extensive investigation of existing radiation policies and guidelines will be concluded and attention will be directed to specific radiation policy questions as they occur. The development of environmental protection standards will be continued by initiating the assessment of the entire nuclear fuel cycle, particularly the nuclear fuel reprocessing plants. Efforts will also be increased to identify the information necessary for a future standard for the liquid metal fast-breeder reactor which is currently under development by the AEC. This particular reactor concept, while having a great potential for meeting the Nation's long-range energy requirements, is unusually complex and will present unique problems in terms of environmental protection requirements.

An increase of $168,800 is requested to permit undertaking the proposed 1973 program. This increase is required to complete the assessment and possible development of a standard for nuclear fuel reprocessing plants and to initiate studies to identify or develop the information required for establishment of a standard for the liquid metal fast-breeder reactor.

Abatement and Control
Radiation
Monitoring and Surveillance

Justification

1972:	$1,404,600
1973:	1,541,500
Change:	-136,900

	1972	1973	Change
Monitoring and surveillance.....	$1,404,600	$1,541,500	+$136,900

A major component of EPA's Radiation Monitoring and Surveillance activity is the conduct of the National Environmental Radiation Monitoring program. This program involves State and local as well as Federal effort. It is aimed at obtaining baseline data on existing levels of environmental radiation; assessing changes in these levels and relating these changes to their probable sources; and determining if these levels are within established guidelines and standards. In a related area, EPA conducts on-site inspections of individual radiation facilities to determine if the discharges of radioactive materials or radiation levels resulting from their operations are within prescribed standards. Finally, the Agency supports State and local and other Federal radiation protection programs by carrying out field surveys and investigations of potential radiological health problems.

During 1972, the effort involved in the National Environmental Radiation Monitoring Program includes the operation of four environmental surveillance networks which cover milk, water, food, and tritium as well as analysis and publication of resultant data. State and local input into the program is being further strengthened through contractual arrangements with additional States to provide more timely data, and by improvement in analytical and quality control methods used in connection with State data. The inspection of nuclear facilities and other facilities using radioactive materials has been initiated and work is focused on the organization of inspection teams, development of inspection procedures, and establishment of arrangements with the AEC, States, and facility operators for access to individual facilities. Finally, field survey work is being conducted to determine radiation levels resulting from the prior use of uranium mill tailings in construction of residential and commercial structures. Detailed surveys are being made in the Grand Junction, Colorado area to help establish the extent of this potential problem, and survey work is being initiated in eight other Western States where these materials have been used in a similar manner.

In 1973, the National Environmental Radiation Monitoring Program will be continued by operating the necessary surveillance networks. Additional contracts with State agencies will be made to receive surveillance data related to specific radiation sources. Preliminary work on the inspections program will be completed and full-scale inspections will be initiated. The field investigations on the uranium mill tailings problem will continue until detailed survey work can be completed in all nine Western States where the problem is evident.

To carry out the proposed 1973 program, an increase of $136,900 is requested. This will provide for continued development of the monitoring program, including the acquisition of data on specific radiation sources so that more precise population dose information can be obtained on a nationwide basis.

Abatement and Control
Radiation
Technical Information and Assistance

Justification

1972:	$373,900
1973:	380,900
Change:	+7,000

	1972	1973	Change
Technical information and assistance.....	$373,900	$380,900	+$7,000

EPA maintains a small staff in nine of its ten regional offices to provide continuing liaison and assistance to State and local environmental radiation programs. This assistance includes a variety of functions such as promotion of effective State control programs through evaluation of on-going activities and development of needed improvements; development of Federal/State/local radiological emergency plans; and arranging for provision of technical assistance and consultation on specific problems.

During 1972 and 1973, regional technical assistance will be continued as described above at essentially the same level in each year. However, in 1973, greater attention will be given to providing for regional office review of environmental impact statements covering nuclear power plants and other major radiation sources.

To carry out the proposed 1973 program, an increase of $7,000 is requested to cover increased employment costs.

Abatement and Control
Radiation
Federal Activities

Justification

1972:	$864,500
1973:	981,500
Change:	+117,000

	1972	1973	Change
Federal activities	$864,500	$981,500	+$117,000

As a part of its overall responsibilities for review of environmental impact statements submitted by other Federal agencies, EPA conducts detailed evaluations of proposals for the design, construction, and modification of radiation producing facilities which are to be operated by Federal agencies or are subject to Federal regulation. In order to provide the technical base necessary to conduct these environmental assessments, EPA also conducts a series of engineering studies aimed at providing a better understanding of the design and operation of devices and systems for containment, treatment, and disposal of radioactive wastes.

During 1972, approximately 75 environmental impact statements are being reviewed. Of this number, about 30 are directly related to the nuclear power industry while the remainder cover such diverse radiation producing activities as underground weapons testing, aerospace applications, methods for shipment of radioactive materials, and facilities and equipment used for research in the physical and biological sciences. In the related program of engineering studies, current year effort includes investigations of three operating reactors and a fuel reprocessing plant. These studies will provide more detailed information on the radioactive wastes discharged by these types of plants and on the exposure levels that they create in the surrounding environment. They also provide information required for development of procedures for inspection of radiation facilities.

Based upon projections provided by the AEC and prior experience with other Federal agencies, it is expected that the total number of environmental impact statements submitted to EPA for evaluation in 1973 will increase to 100. Of this total, approximately 65 will be related to nuclear power plants, and these will be of greater complexity as a result of the recent court decision covering the Calvert Cliffs nuclear plant That decision requires that the scope of impact statements for nuclear facilities be

extended to include all environmental considerations rather than being limited to radiation effects. In addition, impact statements on nonionizing radiation sources are expected to increase. Two of the four engineering studies covering pressurized water reactors will be completed in early 1973 and an additional study will be initiated on the waste disposal problems associated with the liquid metal fast-breeder reactor.

An increase of $117,000 is requested to support six additional positions required to handle the increased impact statement review workload projected for 1973. These reviews afford EPA a major tool for control of environmental radiation by enabling the Agency to directly influence the siting, design features, and operating conditions of individual nuclear facilities.

Abatement and Control
Radiation
Manpower Planning and Training

Justification

1972:	$1,068,600
1973:	827,900
Change:	-240,700

	1972	1973	Change
Training grants and fellowships...	$800,000	$569,500	-$230,500

The training grants program is directed toward assuring the availability of adequate numbers of professionally and technically trained personnel to staff State and local radiation control programs. To this end, EPA makes grants to academic institutions to support both graduate level study and the training of technicians. These grants cover the costs of faculty salaries, equipment and similar costs and, in some instances, tuition and stipends for selected students.

During 1972, grants for graduate level study are being made to 13 institutions which in turn will provide for the training of approximately 173 students working toward MS and Ph.D. degrees. These students will follow programs of study which have application to radiation protection programs and include fields such as health physics and nuclear engineering. Technician training programs are being supported at three academic institutions and provide for the training of about 90 students working toward associate or bachelor level degrees. These persons are being trained for entrance level professional positions in radiation protection programs or as subprofessionals to be employed in radiation monitoring and analytical activities.

In 1973, assistance provided for graduate training will be reduced so that eight institutions and 56 students will be supported. This reduction is in keeping with an EPA policy of encouraging non-Federal sources to assume a greater share of the responsibility for graduate training in environmental disciplines so that EPA may direct its resources to other forms of training which have a greater immediate impact on pollution control manpower requirements. Accordingly, a decrease of $230,500 is proposed for the 1973 training grants program.

Direct training.....	268,600	258,400	-10,200

EPA provides short course training to persons already employed in radiation control activities in State, local, and other Federal agencies and in the private sector. These courses are conducted by EPA staff in EPA facilities and are intended to improve the skills and knowledge of trainees in specific subject areas.

During 1972, 20 short courses are being offered at EPA field locations with 500 students attending. They cover such subjects as radiation protection guides, radionuclide analysis, radiation surveillance, and reactor safety.

During 1973, it is proposed to conduct the same number of courses for approximately the same number of trainees. It is estimated that this effort can be carried out at slightly lower costs than 1972. Beginning in 1973, a system of course fees will be applied to EPA's direct training programs. Receipts will be deposited in the U.S. Treasury as general revenues since there is no authority to use such funds for direct program supports. Consequently, direct training in radiation control will continue to depend on appropriated funds.

Operations, Research, and Facilities
Abatement and Control

Noise

Purpose

Current authorities provide for the abatement and control of objectionable noise through investigations aimed at identifying and classifying the sources and causes of noise as well as by developing recommended plans and programs to control the effects of noise on public health and welfare. The investigations required to plan control programs relate to current and projected levels of community noise, effects of noise on human health, the social and economic impacts of noise, the effects on wildlife, and laws and regulatory schemes for noise abatement.

Current authority also requires EPA to provide technical assistance and guidance to Federal agencies to ensure effective control of noise resulting from Federal activities. To this end, EPA assists in the incorporation of noise control measures in the conceptual and design phases of Federal projects by the issuance of guidelines. Assistance is also provided by reviewing and evaluating noise control plans of Federal agencies, recommending abatement actions, and advising on control measures and available technology.

	1972	1973	Increase or Decrease
Budget Authority			
Planning	$922,700	...	-$922,700
Federal activities	70,000	$895,000	825,000
Total	922,700	895,000	-27,700
End-of-Year Employment			
Planning	8	...	-8
Federal activities	1	9	8
Total	9	9	...
Man-Years, Total	9	9	...

Summary of Increases and Decreases

	1972	1973	Change
Planning	$922,700	...	-$922,700

A decrease reflecting the completion of the Report to the President and the Congress on Noise required by the Noise Pollution and Abatement Act of 1970.

Federal Activities	70,000	895,000	+825,000

To provide technical assistance to other Federal agencies for the purpose of preventing and abating objectionable noise from Federal facilities and activities and to conduct surveys and studies to develop a data and information base on the economic and engineering aspects of noise abatement and control.

Abatement and Control
Noise
Planning

Justification

1972: $922,700
1973: ...
Change: -922,700

	1972	1973	Change
Planning.....	$922,700	...	-$922,700

In 1972, this activity involved investigations and studies of noise and its effects on the public health and welfare, and the holding of eight public hearings in major U.S. cities. A report on these studies, as required by the Noise Pollution and Abatement Act of 1970, was submitted to the President and the Congress on December 31,1971.

The decrease reflects the completion of this activity and the submission of the report. No authority exists for continuing this activity in 1973.

Abatement and Control
Noise
Federal Activities

Justification

1972: $70,000
1973: 895,000
Change: +825,000

	1972	1973	Change
Federal activities.....	$70,000	$895,000	+$825,000

Title IV of the Clean Air Amendments of 1970 requires that any Federal agency carrying out or sponsoring any activity resulting in noise determined by the Administrator to be a public nuisance or to be otherwise objectionable shall consult with EPA to determine possible means of abating such noise.

An increase of $825,000 is requested to provide technical assistance to Federal agencies in the identification of objectionable noise and the taking of appropriate measures for its abatement. Emphasis will be placed on developing systems of communication and cooperative relationship among the Federal agencies for the purpose of noise control. Federal agencies require assistance in initiation of noise abatement implementation activities, with emphasis on preventive engineering techniques in the conceptual and design phases of plans and projects. In addition, the current state-of-the-art of noise control technology at Federal agencies will be evaluated by on-site assessments of noise abatement programs and practices and review of the adequacy and effectiveness of control measures. Technical studies will be initiated to develop the data base necessary for determining the adequacy of noise guidelines and to provide knowledge on the availability of noise control technology. An inventory of Federal installations will be carried out to assemble data on protective measures currently in use and present Federal agency noise control capabilities.

Operations, Research, and Facilities
Abatement and Control

Interdisciplinary

Purpose

Under the provisions of the Tax Reform Act of 1969, industries which install new pollution control facilities are entitled to accelerated cost amortization benefits upon proper certification from the States and the Environmental Protection Agency. Before certifying a facility, EPA must review the application for accelerated amortization and determine whether the facility complies with technical and legal requirements. EPA findings are forwarded to the Internal Revenue Service which makes final determinations on eligibility.

	1972	1973	Increase or Decrease
Budget Authority			
Standards, guidelines, and regulations.....	$99,800	$99,800	...
Total.....	99,800	99,800	...
End-of-Year Employment			
Standards, guidelines, and regulations.....	8	8	...
Total.....	8	8	...
Man-Years, Total.....	7	8	1

Summary of Increases and Decreases

	1972	1973	Change
Standards, Guidelines, and Regulations	$99,800	$99,800	...

To maintain the 1972 level of effort in the review and certification to the Internal Revenue Service of applications for accelerated amortization of facilities installed for air and water abatement and control.

Abatement and Control
Interdisciplinary
Standards, Guidelines, and Regulations

Justification

1972:	$99,800
1973:	99,800
Change:	...

	1972	1973	Change
Certification for tax amortization...	$99,800	$99,800	...

To encourage the construction and installation of pollution control facilities, Congress included a provision in the Tax Reform Act of 1969 to allow for accelerated amortization of the costs of such facilities. Upon certification from the State in which the installation is located and the Environmental Protection Agency, such facilities may be amortized over a 60 month period, with attendant tax benefits. Prior to certifying any such facility, EPA must review the application for accelerated amortization to assure that necessary technical and legal requirements have been met.

In order to qualify for rapid amortization, a facility must first be certified by the State as being in conformance with the State program or with requirements for air or water pollution abatement and control. Upon State certification, the application is submitted to EPA for review. The EPA review consists largely of an examination of the facts presented in the application, including plans and specifications for the facility. To the extent possible, EPA relies upon the State certification to avoid overlapping in-depth reviews and on-site inspections. Decisions to make inspections and site visits are based on such factors as questions on the volume and toxicity of the discharge, the amount of money at stake, and indications that a State may be ignoring obvious violations of applicable air or water quality standards.

Following EPA certification, applications are forwarded to the Internal Revenue Service.

The certification program is being initiated in 1972. Regulations and guidelines for processing applications for accelerated amortization have been developed and published and applications distributed. Initial certifications are expected to be issued late in the year.

In 1973, the emphasis will shift to processing applications and issuing certifications. Several hundred applications are expected to be received and processed, requiring the same overall level of effort and funding as in the current fiscal year.

Operations, Research, and Facilities
Abatement and Control

Program Management and Support

Purpose

This activity encompasses overall program management of and support for the Abatement and Control program activities administered by the Assistant Administrators for Air and Water Programs and Categorical Programs. Relative to program management, this activity provides for staffing of the immediate offices of the:

Assistant Administrator for Air and Water Programs;
Assistant Administrator for Categorical Programs;
Deputy Assistant Administrators for Air Programs, Water Programs, Solid Waste Management Programs, Pesticide Programs and Radiation Programs, and the major divisions within these offices; and
Air and Water Divisions and Categorical Divisions within the ten regional offices.

These offices perform the managerial functions necessary to overall direction and administration of the Abatement and Control program activities, including such functions as program, policy and strategy development, program review, and headquarters level direction of program activities. These offices are not engaged in conduct of specified program activities; the staffing and resources for such activities are included in the respective foregoing sections of the Abatement and Control program. Further, these offices do not encompass the functions of Agency management, which are covered by Agency and Regional Management and discussed in a later section.

The program support activity includes the funding of rents, utilities, telephones, reproduction costs, supplies and other common services required to support the Abatement and Control program activities.

	1972	1973	Increase or Decrease
Budget Authority			
Program management.....	$7,946,900	$7,937,500	$-9,400
Program support.....	13,104,100	13,668,400	564,300
Total.....	21,051,000	21,605,900	554,900
End-of-Year Employment			
Program management.....	369	369	...
Program support.....	...	...	...
Total.....	369	369	...
Man-Years, Total.....	312	350	38

Summary of Increases and Decreases

	1972	1973	Change
Program Management	$7,946,900	$7,937,500	$-9,400
Air and Water Programs.....	3,703,500	3,702,600	- 900
An adjustment which will provide for continuation of the 1972 level of staffing.			
Categorical Programs.....	4,243,400	4,234,900	-8,500
An adjustment which will provide for continuation of the 1972 level of staffing.			
Program Support	13,104,100	13,668,400	+564,300
Air and Water Programs.....	10,013,400	10,445,000	+431,600
To provide for the increased costs of rents, utilities, telephones, supplies, and other common services associated with the program increases requested for the Air and Water Abatement and Control programs.			
Categorical Programs.....	3,090,700	3,223,400	+132,700
To provide for the increased costs of rents, utilities, telephones, supplies and other common services associated with the program increases requested for the Categorical Abatement and Control programs.			

Abatement and Control
Program Management and Support
Program Management

Justification

1972:	$7,946,900
1973:	7,937,500
Change:	-9,400

	1972	1973	Change
Air and Water Programs.....	$3,703,500	$3,702,600	-$900

Proper management of the resources devoted to the Air and Water Abatement and Control program, as described in the foregoing, requires an adequate staff of managerial and support personnel. To provide this, the following staffing was initially developed for Air and Water Program Management in the early part of 1972:

	End-of-Year Employment
Office of Air and Water Programs.....	40
Office of Air Programs (headquaters and Durham).....	48
Office of Water Programs.....	46
Regional Air and Water Divisions.....	19

The functions of these offices have been delimited to those required to provide overall Agency-level policy and program direction and coordination. The direct management and supervision of specific program activities has been excluded from this budget item and included in those respective program activities. Accordingly, staffing of Air and Water Program Management has been and is being minimized to that level deemed necessary to provide top-level management.

No increase in staffing or funding is required for Air and Water Program Management in 1973.

Categorical Programs.....	4,243,400	4,234,900	-8,500

To provide overall management of the resources allocated to the Categorical Abatement and Control program previously described, the following staffing has been established for Categorical Program Management:

	End-of-Year Employment
Office of Categorical Programs.....	24
Office of Solid Waste Management Programs (headquaters and Cincinnati).....	54
Office of Pesticides Programs (headquaters and Chamblee).....	82
Office of Radiation Programs.....	29

Regional Categorical Divisions..... 27

As with Air and Water Program Management, the functions of these offices have been delimited to encompass only overall Agency-level policy and program direction and coordination. The direct management and supervision of specific program activities has been excluded from this budget item and included in the respective program activities.

For 1973, a slight decrease in funding will be possible in Categorical Program Management, while still maintaining the 1972 level of staffing. This results from nonrecurring office equipment and other initial costs associated with the creation and staffing of these offices during 1972.

Abatement and Control
Program Management and Support
Program Support

Justification

1972:	$13,104,100
1973:	13,668,400
Change:	+564,300

	1972	1973	Change
Air and Water Programs.....	$10,013,400	$10,445,000	+$431,600

Program support resources cover a variety of program costs which are applicable to more than one program activity. These costs include communications costs, such as Federal Telecommunications System (FTS), telephones, toll calls, penalty mail, etc.; printing costs; laboratory and office security and custodial services; supplies and materials; and space rental costs.

An increase of $431,600 is requested to support these types of common services costs associated with the additional staff proposed for 1973.

Categorical Programs.....	3,090,700	3,223,400	+132,700

Program support resources cover a variety of program costs which are applicable to more than one program activity. These costs include communications costs, such as Federal Telecommunications System (FTS), telephones, toll calls, penalty mail, etc.; printing costs; laboratory and office security and custodial services; supplies and materials; and space rental costs.

An increase of $132,700 is requested to support these types of common services costs associated with the additional staff proposed for 1973.

Operations, Research, and Facilities
Enforcement

Air

Purpose

The Air Enforcement program is directed toward achieving compliance with designated standards for both stationary and mobile sources of air pollution under the provisions of the Clean Air Act, as amended. The stationary source enforcement program is being undertaken in cooperation with the States and includes enforcement of State implementation plans, new source performance standards, and national emission standards for hazardous air pollutants. The mobile source enforcement program is primarily a Federal effort directed toward achieving compliance with motor vehicle emission standards, fuel standards, and aircraft emission standards.

	1972	1973	Increase or Decrease
Budget Authority			
Stationary source enforcement	$1,230,000	$2,196,500	$966,500
Mobile source enforcement....	138,000	445,000	307,000
Total.....	1,368,000	2,641,500	1,273,500
End-of-Year Employment			
Stationary source enforcement	47	116	69
Mobile source enforcement....	10	27	17
Total.....	57	143	86
Man-Years, Total.....	51	104	53

Summary of Increases and Decreases

	1972	1973	Change
Stationary Source Enforcement	$1,230,000	$2,196,500	+$966,500

To provide additional staff in each regional office to assist and support the States in enforcing violations of approved air quality implementation plans and, where delegated, enforcement where there are violations of new source performance standards and emission standards for hazardous air pollutants; and to provide for Federal enforcement of these plans and standards as appropriate.

Mobile Source Enforcement	138,000	445,000	+307,000

To participate in program design and regulations development for assembly line testing; to implement a program to detect marketing of uncertified new vehicles; to begin operation of a program for recall of classes of in-use vehicles which fail to comply with emission standards; to implement a program to enforce against tampering with emission control devices; and to initiate enforcement of lead fuel standards.

Enforcement
Air
Stationary Source Enforcement

Justification

1972:	$1,230,000
1973:	2,196,500
Change:	+966,500

	1972	1973	Change
Stationary source enforcement..	$1,230,000	$2,196,500	+$966,500

Responsibility for enforcement of standards applicable to stationary sources of air pollution is shared by EPA and the States. Implementation plans prepared by the States were submitted in January 1972 and must be approved or disapproved by EPA by May 1972. Plans not approved will be modified and promulgated by EPA not later than July 1972. EPA is providing support, assistance, and incentives to the States to enable them to exercise primary responsibility for enforcing implementation plans and achieving compliance with National Ambient Air Quality Standards. EPA will only assume enforcement responsibility for plans, or portions thereof, where States fail to act. Responsibility for enforcing new source performance standards and emission standards for hazardous air pollutants rests with EPA but may be delegated to the States. In December 1971, new source performance standards were promulgated for five sources: power plants, incinerators, cement plants, nitric acid plants, and sulfuric acid plants. It is anticipated that standards for an additional 18 sources will be promulgated in 1973. EPA plans to delegate enforcement responsibility for new source performance standards to approximately half the States by 1973. Construction lag times will preclude initiation of a significant number of enforcement actions related to new source performance standards through 1973. In June 1972, EPA will promulgate hazardous emission standards. It is anticipated that pollutants covered will include asbestos, beryllium, and mercury. EPA will continue to exercise primary responsibility for enforcing hazardous emission standards, delegating this responsibility to only a few States during 1973.

Primary emphasis during 1972 is being directed toward program planning and development. This is being accomplished through establishing an enforcement staff nucleus in each regional office to develop an effective enforcement program capability and provide limited support and assistance to the States. Enforcement activities related to new source performance standards and emission standards for hazardous air pollutants will include identifying tasks and developing programs to ensure that affected sources understand and comply with the standards; preparing for review of preconstruction plans of new sources as specified by the Clean Air Act; and developing guidelines for delegating enforcement authority to the States. It is estimated that EPA will initiate 25 notices of violation, 10 abatement orders and conferences, and two court actions in 1972.

In 1973, EPA will continue to work closely with States in enforcing implementation plans and new source standards and hazardous emission standards where responsibilities have been delegated. In early 1973, it is anticipated that EPA will receive, review, and issue approximately 3,000 waiver requests from sources unable to comply with emission standards for hazardous air pollutants by September 1972. It is expected that 5,000 citizen complaints will be reviewed and 650 performance tests will be performed in support of State or Federal actions. In addition, preconstruction plans for sources subject to new source performance standards or hazardous emission standards will be reviewed; start-up tests for such sources will be observed; and routine periodic source inspections will begin. It is anticipated that approximately 200 notices of violation, 100 abatement orders and conferences, and 20 court actions will be initiated to achieve compliance with standards in 1973.

The requested increase will provide for increasing the size of EPA regional staffs from 31 to 95 so that they can provide the necessary support and assistance to the States and to ensure compliance in the event of State failure to enforce. Activities will include helping States to set up enforcement programs, evaluating State/local capabilities, conducting field investigations and performance tests on stationary sources, responding to citizen complaints, and providing direct case development support to encourage and facilitate State enforcement activities. The requested increase will also provide for the substantial increase in the number of enforcement actions planned for 1973. This increase in enforcement activity is considered necessary to assure that compliance with standards will be achieved in a timely manner.

Enforcement
Air
Mobile Source Enforcment

Justification

1972:	$138,000
1973:	445,000
Change:	+307,000

	1972	1973	Change
Mobile source enforcement.....	$138,000	$445,000	+$307,000

Standards for motor vehicle emissions, aircraft emissions, and fuels have been promulgated by EPA under the provisions of the Clean Air Act, as amended. A program geared to enforcement of those standards is being designed and developed in 1972. Mobile source enforcement activities include preventing the introduction into commerce of uncertified new domestic and imported motor vehicles, instituting recall proceedings where in-use vehicles fail to meet standards, preparing prosecutions where tampering with emission control systems is apparent, and enforcing Federal regulations on fuel and fuel additives. The program also includes collecting evidential data and assisting in preparation of cases requiring court action.

Major emphasis in the mobile source enforcement program during 1972 is being directed toward the design and development of programs which will serve as a basis for enforcement of mobile source emission standards in the future. Accordingly, those programs which will be implemented in 1973, as discussed below, are being designed and developed in the current fiscal year. Enforcement actions anticipated in 1972 include approximately seven investigations of possible violations, five hearings on extensions and waivers, three recalls, and one civil action.

The design and development of the mobile source enforcement programs will be continued in 1973. In addition, resources will be utilizeo to implement a monitoring system to detect and prevent the introduction of uncertified new domestic and imported vehicles into commerce; to initiate operation of a recall program for in-use vehicles; to implement a program to prohibit tampering with emission control devices; to initiate enforcement of lead fuel standards; to participate in program design and regulations development for assembly line testing, record keeping requirements, and right of entry procedures; and to prepare the annual report on aircraft compliance. Enforcement actions anticipated for 1973 include approximately 680 investigations of possible violations, eight hearings on extensions and waivers, 20 recalls, and 10 civil actions.

The requested increase for mobile source enforcement will be utilized to implement the monitoring system, recall program, tampering program, enforcement of lead standards, regulations development, and report on aircraft compliance, as discussed above. The increase will also permit the substantial expansion in the number of enforcement actions.

Operations, Research, and Facilities
Enforcement

Water Quality

Purpose

The water enforcement program includes both the issuance of permits under the Rivers and Harbors Act of 1899 and the pursuance of enforcement actions under the Federal Water Pollution Control Act, as amended. The goal of the water enforcement program is to achieve compliance with water quality standards through a combined program of limiting discharges from point sources through the permit program, supplemented by enforcement actions in cases of noncompliance with water quality standards. Enforcement actions utilized include enforcement conferences, 180 day notices, and civil and criminal court actions.

	1972	1973	Increase or Decrease
Budget Authority			
Enforcement.....	$8,797,500	$10,283,500	$1,486,000
Refuse Act permits.....	4,996,200	8,408,200	3,412,000
Total.....	13,793,700	18,691,700	4,898,000
End-of-Year Employment			
Enforcement.....	368	518	150
Refuse Act permits.....	359	359	...
Total	727	877	150
Man-Years, Total	649	759	110

Summary of Increases and Decreases

	1972	1973	Change
Enforcement	$8,797,500	$10,283,500	+$1,486,000

To permit conduct of approximately 75 additional enforcement actions, to address an expected increase in violations of water quality standards, and to further address the expected increase in violations of Refuse Act permits as greater numbers are issued.

Refuse Act Permits	4,996,200	8,408,200	+3,412,000

To expand the computerized system for processing and handling permit data in order to facilitate more efficient and effective review of permit applications, and to purchase field sampling and laboratory equipment to support monitoring of wastes discharged by permittees.

Enforcement
Water Quality
Enforcement

Justification

1972: $8,797,500
1973: 10,283,500
Change: +1,486,000

	1972	1973	Change
Water enforcement.....	$8,797,500	$10,283,500	+$1,486,000

Under the provisions of the Federal Water Pollution Control Act, as amended, enforceable Federal/State water quality standards have been promulgated for all navigable and interstate waters in the United States. Standards include implementation plans delineating abatement requirements, abatement schedules, and other actions necessary to bring about compliance. Enforcement of standards is shared by the Federal and State levels of government. EPA provides technical and enforcement assistance to all State enforcement agencies. Direct enforcement of standards is ordinarily only undertaken by EPA in those States which do not have strong enforcement programs or where States fail to take action in cases of significant noncompliance with standards. Before initiating enforcement actions, EPA ordinarily attempts to bring about voluntary compliance through informal conferences and hearings with suspected violators. Enforcement actions utilized to bring about compliance with water quality standards include enforcement conferences, 180 day notices, and civil and criminal court actions. Court actions are also utilized to bring about compliance with Refuse Act permit conditions. The program also includes the conduct of field investigations and development of evidentiary data in support of enforcement actions.

During 1972, major emphasis in the water enforcement program is being placed on decentralizing responsibility to the regional office level for actions against single sources of water pollution. It is anticipated that this shift in responsibility away from headquarters will lead to a more responsive and streamlined enforcement program. In 1972, the investigation of mercury discharges has been completed and abatement has been achieved in all but a very few cases which are currently the subject of enforcement actions. In addition, significant effort is being undertaken to abate pollution in shellfish areas where the marketing of shellfish in interstate commerce is adversely affected. It is estimated that enforcement actions initiated

in 1972 will include 10 new enforcement conferences, 10 reconvened conferences, and approximately 200 single source actions.

During 1973, the water enforcement program will be intensified to bring about compliance in river basins throughout the country on a priority basis. Major emphasis will continue to be focused on abating pollution in shellfish areas and in the Great Lakes. Enforcement actions in support of the Refuse Act permit program will be increased. It is anticipated that EPA will initiate approximately 10 new enforcement conferences, 10 reconvened conferences, and 275 actions against single sources of water pollution during 1973.

The requested increase in 1973 will enable EPA to initiate approximately 75 additional enforcement actions against single sources of water pollution. These actions will include civil and criminal enforcement of Refuse Act violations and 180 day notices against those in violation of water quality implementation plans and enforcement conference schedules. The increase in the number of enforcement actions will be utilized to bring about compliance in those river basins selected on a priority basis with the most critical water pollution problems in the country.

Enforcement
Water Quality
Refuse Act Permits

Justification

1972:	$4,996,200
1973:	8,408,200
Change:	+3,412,000

	1972	1973	Change
Refuse Act permits.....	$4,996,200	$8,408,200	+$3,412,000

The Refuse Act permit program, initiated in 1971 under authority of the Rivers and Harbors Act of 1899, is a cooperative effort involving EPA, the States, the U.S. Army Corps of Engineers, and the Department of Justice. It involves the receipt and review of permit applications from industries discharging or proposing to discharge wastes into navigable waterways, the drafting of conditions designating the grounds on which permits will be issued, and the issuance of permits where conformance to industrial effluent and water quality standards can be demonstrated. Under this program, industries which discharge wastes into navigable streams or tributaries thereof are required to file applications for permits with the Corps of Engineers. Completed applications are forwarded to EPA and the States, who recommend conditions under which permits will be issued. These conditions usually require some treatment of industrial wastes. Permits are issued by the Corps of Engineers based on the conditions and recommendations received from EPA and the States.

Full-scale processing of permit applications has been initiated during 1972. To date, the Corps of Engineers has received approximately 20,000 completed applications, most of which will be forwarded to EPA for review before the end of the fiscal year. It is estimated that EPA will draft conditions for approximately 2,700 applications in 1972. Other activities being undertaken during 1972 include providing assistance to States in the development of their certification programs, working with industries to assist them in meeting permit conditions, and developing effluent guidelines on an industry-by-industry basis.

Those activities described above will be continued in 1973 when it is anticipated that EPA will draft conditions for approximately 20,000 additional permit applications. The 1973 program will also provide for purchase of laboratory equipment and supplies and expansion of the data storage and retrieval system.

The requested increase in 1973 will provide for the purchase of laboratory equipment and supplies and expansion of the data storage and retrieval system. Laboratory needs include boats, sampling devices, testing agents, containers, and sophisticated equipment required to measure industrial discharges. These purchases will total $2,000,000 and will provide equipment and supplies needed by EPA to monitor and evaluate discharges emanating from permitted facilities to determine compliance with permit conditions. The sum of $1,412,000 is required to expand the data storage and retrieval system to permit manipulation of technical data contained in permits or permit applications in a variety of ways and to provide a mechanism for more effective management and control of the Refuse Act permit program. This system will: (1) provide comprehensive effluent information which can be utilized as a data base for effluent guidelines; (2) permit EPA to monitor compliance with effluent standards and implementation schedules; (3) permit charting of progress toward cleanup through analysis; (4) provide information on waste abatement practices across industries and firms within industries; and provide many other meaningful data comparisons.

Operations, Research, and Facilities
Enforcement

Pesticides

Purpose

EPA's Pesticides Enforcement program includes surveillance and inspection activities to determine compliance with the provisions of the Federal Insectide, Fungicide, and Rodenticide Act and initiation of voluntary recall, seizure, and criminal prosecution actions in cases of noncompliance.

	1972	1973	Increase or Decrease
Budget Authority			
Enforcement.....	$1,034,900	$1,010,900	-$24,000
Total.....	1,034,900	1,010,900	-24,000
End-of-Year Employment			
Enforcement.....	80	80	...
Total.....	80	80	...
Man-Years, Total	77	77	...

Summary of Increases and Decreases

	1972	1973	Change
Enforcement	$1,034,900	$1,010,900	-$24,000

An adjustment to provide for continuation of the 1972 level of effort in surveillance activities and, at the same time, pursue a more aggressive enforcement role by recommending more violations for prosecution and initiating a program of direct regional enforcement activity.

Enforcement
Pesticides
Enforcement

Justification

1972:	$1,034,900
1973:	1,010,900
Change:	-24,000

	1972	1973	Change
Pesticides enforcement.....	$1,034,900	$1,010,900	-$24,000

Surveillance and inspection of domestic and imported pesticides products serves as the basis for EPA's enforcement actions under the post-market regulatory provisions of the Federal Insecticide, Fungicide, and Rodenticide Act. Surveillance of registered pesticide products is carried out through surveying and inspecting all types of establishments which handle, distribute, and sell pesticides; examining required records maintained by such establishments; collecting and evaluating product samples; monitoring temporary permits; and carrying out inspector visits to manufacturer and distributor locations to determine the disposition of returned products. When violation of the Act is alleged, notices of violations are issued and compliance can be achieved through voluntary recall and removal of the product by the manufacturer or through seizure of the product by EPA. For other than minor violations, notices can lead to criminal prosecution under the Act. Voluntary recall and seizure actions can also be utilized where pesticides registrations are cancelled due to threats to public health or welfare.

During 1972, the pesticides enforcement program is being reoriented toward a stronger regional office role than has been the case in previous years. Whereas, regional staffs were formerly solely concerned with surveillance and product collection activities, under the program currently being implemented, regional offices will now also be responsible for initiating seizure actions and violations notices and preparing evidence for possible prosecution. More emphasis will be placed on pesticides enforcement activities than previously has been the case. It is estimated that there will be 5,500 product samples collected, 50 voluntary recalls, 1200 violation notices, 36 seizures, and 25 criminal prosecutions in 1972.

In 1973, those efforts to strengthen the regional enforcement program initiated in 1972 will be continued. It is anticipated that there will be 6,000 product samples collected, 50 voluntary recall actions, 1200 violation notices, 50 seizures, and 100 criminal prosecution in 1973.

Operations, Research, and Facilities
Enforcement

Program Management and Support

Purpose

This activity encompasses overall program management of and support for the Agency's Enforcement activities and staffing of the Agency General Counsel and Regional Counsel offices. In the program management area, this activity provides for staffing of the immediate offices of the:

Assistant Administrator for Enforcement and General Counsel;
Deputy Assistant Administrator for Water Enforcement and General Enforcement;
General Counsel and Regional Counsel; and
Enforcement Division within the regional offices

The program support activity includes the funding of rents, utilities, telephones, reproduction costs, supplies, and other common services required to support the Enforcement program activities and the General and Regional Counsels.

	1972	1973	Increase or Decrease
Budget Authority			
Program management.....	$2,037,400	$2,172,600	$135,200
Program support.....	2,712,800	3,542,700	829,900
Total.....	4,750,200	5,715,300	965,100
End-of-Year Employment			
Program management.....	121	131	10
Program support.....	...	...	...
Total.....	121	131	10
Man-Years, Total.....	106	120	14

Summary of Increases and Decreases

	1972	1973	Change
Program Management	$2,037,400	$2,172,600	+$135,200

To provide a 10 position staff increase in the offices of the Regional Counsels.

Program Support	2,712,800	3,542,700	+829,900

To provide for the increased costs of rents, utilities, telephones, supplies, and other common services associated with the program increases requested for Enforcement programs.

Enforcement
Program Management and Support
Program Management

Justification

1972:	$2,037,400
1973:	2,172,600
Change:	+135,200

	1972	1973	Change
Program management.....	$2,037,400	$2,172,600	+$135,200

To provide overall management of the Enforcement program activities as described in the previous sections. For 1972, the following staffing has been established.

	End-of-Year Employment
Office of the Assistant Administrator for Enforcement and General Counsel.....	21
Office of Water Enforcement.....	8
Office of General Enforcement.....	11
Office of General Counsel.....	37
Office of Regional Counsel.....	30
Regional Enforcement Divisions.....	14

The functions of these offices have been defined as those required to provide overall Agency-level policy and program direction. Direct management and supervision of specific program activities have been excluded from this budget item and included in the respective program activity as discussed in the foregoing sections.

An increase of $135,200 is requested for 1973 to increase staffing of the Office of Regional Counsel by 10 positions. This is to provide an additional attorney for each Regional Counsel to enable them to handle the workload that 1972 experience has shown to exist.

Enforcement
Program Management and Support
Program Support

Justification

1972:	$2,712,800
1973:	3,542,700
Change:	+829,900

	1973	1972	Change
Program support.....	$2,712,800	$3,542,700	+$829,900

Program support resources cover a variety of program costs which are applicable to more than one program activity. These costs include communications costs, such as Federal Telecommunications System (FTS), telephones, toll calls, penalty mail, etc.; printing costs; laboratory and office security and custodial services; supplies and materials; and space rental costs.

An increase of $829,900 is requested to support these types of common services costs associated with the additional staff proposed for 1973.

Operations, Research, and Facilities

Facilities

Purpose

This activity covers two categories of work: the construction and equipping of new facilities and the repairs and improvements of existing facilities occupied and maintained by EPA. Funds for acquisition of land, preparation of architectural and engineering plans and specifications, construction, and initial equipping of new facilities are carried under the first of these categories. To date, EPA and its predecessor agencies have constructed and now operate seven new facilities, mostly water quality laboratories. Funds for repair and improvement projects at these and other EPA facilities, for which this Agency has maintenance responsibility, are carried under the second category. Currently, EPA has such responsibility for 23 facilities, mostly water laboratories, at which repair and improvement needs can arise.

This activity does not cover the leasing of space and facilities or the costs of alteration of leased facilities. These costs are carried under Agency and Regional Management and under the Program Management and Support sections of Research and Development, Abatement and Control, and Enforcement. Essentially all of EPA's office space, including that of the headquarters and regional offices and several of its major facilities, such as those at Durham, North Carolina, and Ann Arbor, Michigan are leased either directly or through the General Services Administration. Generally, it is the policy of the Agency to undertake the construction or ownership and the subsequent operation of only those special purpose facilities, such as laboratories, which cannot be readily or reasonably acquired through leasing or other nonownership arrangements.

	1972	1973	Increase or Decrease
Budget Authority			
New facilities	$28,000,000	...	-$28,000,000
Repairs and improvements	...	$1,000,000	+1,000,000
Total	28,000,000	1,000,000	-27,000,000
End-of-Year Employment	...	...	...
Man-Years, Total	...	...	...

Summary of Increases and Decreases

	1972	1973	Change
New Facilities	$28,000,000	...	-$28,000,000

A reduction reflecting the nonrecurring funding requirement for construction and initial equipping of the National Environmental Research Laboratory in Cincinnati, Ohio.

Repairs and Improvements	...	1,000,000	1,000,000

To fund 76 repair and improvement projects at 15 of the facilities operated by EPA to correct conditions detrimental to personnel safety, provide proper maintenance and protection of the Federal investment, improve the general utility of these facilities for support of program activities, and meet specific program requirements.

Facilities
New Facilities

Justification

1972:	$28,000,000
1973:	...
Change:	-28,000,000

	1972	1973	Change
New facilities.....	$28,000,000	...	-$28,000,000

The 1972 appropriation included $28,000,000 for construction and equipping of the National Environmental Research Laboratory at Cincinnati, Ohio. Preparation of the plans and specifications and perfection of site acquisition are near completion. The current schedule calls for invitations for construction bids in June 1972, award of the construction contract in October 1972, and completion of construction by August 1975. Initial occupancy is programmed to begin in September 1975. Slippage in the previously projected initial occupancy date has been occasioned by the need to modify initial construction plans and specifications in order to provide a facility which will adequately meet the Agency's laboratory needs, plus some delay in completing land title transfers. Based on current cost estimates, no additional funds are required in 1973 to proceed with this schedule.

The Agency is currently engaged in a thorough comprehensive study of its future laboratory needs, both immediate and longer term. This study is considering requirements for both (1) research laboratory facilities to fit within the consolidated framework of the National Environmental Research Centers and satellite laboratories established in the early part of 1972 and (2) technical support laboratory facilities attached to the 10 regional offices. Further, the study is considering the desirability of consolidating or otherwise modifying existing facilities and is considering the most appropriate ways for acquiring any new facilities identified as being needed by the study. Following completion of the study, the Agency intends to present a comprehensive plan delineating future funding needs for new facilities. Finally, the study is considering the need for proceeding with design and/or construction of those facilities for which funds have been previously appropriated. These facilities and the funds currently available from prior appropriations are as follows:

1.	Air Facility, Durham, North Carolina For planning and design.....	$1,164,500
2.	Water Quality Facility, Narragansett, Rhode Island For construction.....	1,727,926
3.	Water Quality Facility, Ann Arbor, Michigan For construction.....	2,098,165
4.	Water Quality Facility, Jackson-Vicksburg, Mississippi For planning and site acquisition.....	160,000
5.	Water Hygiene Laboratory, Manchester, Washington For construction.....	1,035,000
6.	Water Hygiene Laboratory, Narragansett, Rhode Island For construction.....	1,108,000
7.	Water Quality Laboratory, Stevens Point, Wisconsin For planning.....	79,200
8.	Water Quality Laboratory, Columbia, Missouri For planning.....	112,800
9.	Water Quality Laboratory, Middle Atlantic Area For planning.....	160,000
	Total.....	7,645,591

Facilities
Repairs and Improvements

Justification

1972: ...
1973: $1,000,000
Change: +1,000,000

	1972	1973	Change
Repairs and improvements.....	...	$1,000,000	+$1,000,000

EPA is responsible for the maintenance (repairs and improvements) of the following facilities:

Facility	Location	Size (Sq. Ft.)
1. Southeast Water Laboratory	Athens, Georgia	56,134
2. Water Quality Laboratory	Grosse Ile, Michigan	20,000
3. National Water Quality Laboratory	Duluth, Minnesota	44 000
4. Water Quality Laboratory	Edison, New Jersey	127,588
5. Robert S. Kerr Water Research Laboratory	Ada, Oklahoma	50,300
6. Fish Toxicology Laboratory	Newtown, Ohio	5,091
7. Pacific Northwest Water Laboratory	Corvallis, Oregon	49,500
8. Water Quality Laboratory	Bears Bluff, South Carolina	20,000
9. Alaska Water Laboratory	College, Alaska	20,000
10. Water Quality Laboratory	Alameda, California	18,345
11. Water Quality and Air Pollution Laboratory	Cincinnati, Ohio	184,987
12. Southeast Water Hygiene Laboratory	Dauphin Island, Alabama	9,625
13. Northeast Water Hygiene Laboratory	Narragansett, Rhode Island	20,100
14. Northwest Water Supply Laboratory	Manchester, Washington	9,000
15. Pesticides Laboratory	Gulf Breeze, Florida	20,000
16. Pesticides Laboratory	Bay St. Louis, Mississippi	40,000
17. Pesticides Laboratory	Corvallis, Oregon	2,000
18. Pesticides Laboratory	Wenatchee, Washington	3,240
19. Pesticides Laboratory	Beltsville, Maryland	23,682
20. Pesticides Laboratory	Perrine, Florida	43,000
21. Pesticides Laboratory	Chamblee, Georgia	27,665
22. Pesticides Laboratory	Denver, Colorado	55,000
23. Radiation Laboratory	Las Vegas, Nevada	5,724

The Agency maintains a continuous review of repair, improvement, and alteration needs at each of these facilities.

During 1972, 88 projects are being initiated with carryover funds from prior years. These projects are grouped by class, as follows:

Class I - Correction of Conditions Detrimental to Personnel Safety

Includes projects to install and repair fire protection and alarm systems, construction of hazardous materials storage facilities, water system improvements, and correction of site drainage conditions. Includes 23 projects at nine separate facilities..... $638,000

Class II - Maintenance and Protection of the Federal Investment

Covers a number of interior and exterior painting projects, office and laboratory roofing, replacement of mechanical equipment, parking area renovation, and air conditioning system modifications. Includes 20 projects at eight separate facilities..... 273,000

Class III - Improvement of the General Utility of the Facility

Includes installation of an emergency generator, modification of an auxiliary laboratory site, renovation of a restroom, modification of docking facilities, installation of emergency power facilities, steam system modifications, elevator repairs, and development of a fish toxicology laboratory and storage area modification. Includes 34 projects at 11 separate facilities..... 1,956,446

Class IV - Improvements to Meet Specific Program Requirements

Includes modification of wet laboratory facilities, seawater system modifications, computer system modification, animal facility modification, training area alterations, office and laboratory space modifications, and installation of an insect emergence facility and a pilot plant. Includes 11 projects at seven separate facilities..... 829,000

For 1973, an additional $1,000,000 is requested to fund 76 projects at 15 facilities. Nearly one-half of these funds is to be allocated to Class I and II projects to provide a safe working environment for EPA personnel and to properly maintain and protect the Agency's investment in its facilities. The remaining part of these funds is to be assigned to various projects needed to improve facilities for the conduct of current high priority programs and activities. The projects are grouped by class, as follows:

Class I - Correction of Conditions Detrimental to Personnel Safety

Installation of electrostatic precipitators and hood exhaust ducts, roof repairs, ventilation system alterations, building fault analysis, and security fencing..... 257,000

Class II - Maintenance and Protection of the Federal Investment

Various exterior and interior repainting projects, roof maintenance, laboratory barge repairs, masonry repairs, heating system repairs, exterior sealing and waterproofing, and boathouse repairs..... $195,000

Class III - Improvement of the General Utility of the Facility

Dike and gate repairs, installation of boathouse loading ramp, repair of road and parking area, group relamping, modification of air conditioning system, repair of corridor ceilings, and installation of hydraulic surge tanks..... 353,000

Class IV - Improvements to Meet Specific Program Requirements

Installation of a seawater well and a heat exchanger, repairs to docking facilities, alteration of a boat slip and launching ramp, office and laboratory space modifications, greenhouse repairs, and modification of training area facilities..... 195,000

Operations, Research, and Facilities

Agency and Regional Management

Purpose

This activity provides for the general management of EPA which includes overall direction, through the Administrator and immediate staff, and administrative support to the program activities. The principal cost in this activity is for salaries of personnel which fall into two major classifications: agency management which includes the Administrator and his staff offices reporting directly to the Administrator, and the Assistant Administrator for Planning and Management; and regional management which includes the Regional Administrators of 10 EPA regional offices and their management staffs.

	1972	1973	Increase or Decrease
Budget Authority			
Agency management and support.....	$25,638,300	$30,735,200	$5,096,900
Regional management and support.....	8,063,600	9,244,300	1,180,700
Total.....	33,701,900	39,979,500	6,277,600
End-of-Year Employment			
Agency management and support.....	1,194	1,194	...
Regional management and support.....	394	444	50
Total.....	1,588	1,638	50
Man-Years, Total.....	1,395	1,523	128

Summary of Increases and Decreases

	1972	1973	Change
Agency Management and Support	$25,638,300	$30,735,200	+$5,096,900
Agency management.....	21,209,300	24,777,200	+3,567,900
To provide an increase in economic studies to assess the economic costs and impacts of proposed standards, regulations, abatement strategies, and agency programs.			
Agency support.....	4,429,000	5,958,000	+1,529,000
To provide for the full-year costs of headquarters space acquired in 1972.			
Regional Management and Support	8,063,600	9,244,300	+1,180,700
Regional management.....	7,335,900	8,020,000	+684,100
To increase staffing of regional management by 50 positions to facilitate implementation of functions decentralized to the regions.			
Regional support.....	727,700	1,224,300	+496,600
To provide for the full-year costs of regional space acquired in 1972 and increased common services costs.			

Agency and Regional Management
Agency Management and Support

Justification

1972:	$25,638,300
1973:	30,735,200
Change:	+5,096,900

	1972	1973	Change
Agency management.....	$21,209,300	$24,777,200	+$3,567,900

Agency management consists of three major organizational groupings which constitute the top level policy and management team of the Environmental Protection Agency. The first of these groupings include the Administrator, the Deputy Administrator, and their immediate staffs. The second cluster includes those staff elements reporting directly to the Administrator which are concerned with Agency level policy functions. Specific organizational elements are: the Office of Legislation; the Office of International Affairs; the Office of Civil Rights and Urban Affairs; the Office of Public Affairs; and the Office of Federal Activities. The third cluster involves the centralized Agency planning, analysis, and administrative management functions assigned to the Assistant Administrator for Planning and Management. Specific organizational elements are: the Office of Planning and Evaluation; the Office of Resources Management; the Office of Administration; and the Office of Audit.

Shortly after congressional review of the 1972 budget, the Environmental Protection Agency was reorganized along functional lines with Assistant Administrators designated for: Planning and Management; Research and Monitoring; Air and Water Programs; Categorical Programs; and Enforcement and General Counsel. In order to facilitate presentation and review of the 1973 budget, the activity structure has been realigned to be generally consistent with major organizational responsibilities. The 1972 budget provided for Agency management requirements as part of the Program Direction and Support activity. This 1972 format also included the personnel and support costs associated with the direction of major programs such as Air Quality, Water Quality, etc., in the Program Direction and Support activity. In this budget the requirements for program management are associated directly with the Research and Development, Abatement and Control, and Enforcement activities in order to better relate organization and budget.

The organizational composition of Agency management remains essentially identical with the 1972 budget justification. Although there have been some minor adjustments between the policy staff and management support organization, the total position request for 1973 of 1,194 compares with an estimate of 1,188 in the 1972 budget. One

reason for this general stability in the Agency management area is that the Agency policy staff and Planning and Management functions were the first organizations to be functionalized and their structure and responsibilities were well along at this point last year. The 1972 budget noted that initial staffing of Agency level functions was accomplished through centralization of policy and management support staff transferred to EPA from inherited organizational components. Also noted was that this approach would avoid the problem of duplicating policy and support staff at the Agency level. Now that it is possible to look back at this rationale, we feel that it has been a successful approach.

Although the manpower requirements for Agency management have remained essentially constant, the fund requirements have increased some $3.5 million for 1973 to support economic and cost analyses by the Office of Planning and Management. This increase will be used for:

1. Expansion of studies assessing the impact of pollution abatement control costs on the national and regional economies and on specific industries. Rigorous economic modeling and industry studies will be undertaken to measure the effect of pollution control costs on national and regional employment, prices, trade, and on industrial plant closings and community impacts.

2. Assessment of the capacity, timing, and cost implications of industries supplying and constructing pollution control facilities. Studies will analyze equipment requirements and the ability of suppliers to fulfill these demands for air and water pollution abatement control equipment plus the capacity of the construction sector to put public and private facilities in place. These studies will provide the basis for better estimates of the cost of controlling pollution and could lead to phasing decisions or incentive programs to facilitate compliance at a minimum cost.

3. Assessment of the nature of the private sector compliance with environmental regulations or standards. Studies will encompass technological progress, process changes, the identification of determinants of compliance, and the use of incentives to

foster the development of more cost effective methods of pollution abatement control.

	1972	1973	Change
Agency support.....	$4,429,000	$5,958,000	+$1,529,000

Agency support resources cover a variety of program costs which are applicable to more than one program activity. These costs include communications costs, such as Federal Telecommunications System (FTS), telephones, toll calls, penalty mail, etc.; printing costs; laboratory and office security and custodial services; supplies and materials; and space rental costs.

An increase of $1,529,000 is requested to support the full-year costs of headquarters space acquired by the Agency during 1972.

Agency and Regional Management
Regional Management and Support

Justification

1972:	$8,063,600
1973:	9,244,300
Change:	+1,180,700

	1972	1973	Change
Regional management.....	$7,335,900	$8,020,000	+$684,100

The regional management activity provides for a Regional Administrator and his immediate staff in each of the 10 regions. Regional Administrators are responsible for directing the various environmental protection activities within the boundaries of their respective regions. The immediate staff of the Regional Administrators include personnel engaged in procurement, personnel and fiscal management, administration, program planning, and housekeeping activities. The 10 EPA regions and their boundaries are shown on pages SA-2 and SA-3.

As in agency management, staffing of the regional offices is being accomplished in an evolutionary manner. During this process, the agency has evolved a regional management structure that is self-contained and will permit Regional Administrators to operate more independently and effectively. Within the revised organizational concept, the Regional Administrators have been assigned additional functions such as grant administration, intergovermental relations, and equal employment opportunity. Also, they will have greater involvement in program management. The Regional Administrators will play a greater role in the formulation of programs and projects vis-a-vis an execution role. Establishment of the regional structure and the staffing of these organizations has been underway for several months. However, this phase is now complete with appointment of the last Regional Administrator on December 1, 1971.

Staffing requirements necessary for implementation of functions decentralized to the regions will require an increase of 50 positions in 1973. This will permit Regional Administrators to adequately staff areas such as data systems support, personnel and fiscal management, equal employment opportunity, etc. Also, the increase will permit each Regional Administrator to be represented on the Federal Regional Councils which provide a coordinating function among all Federal activities in each of the 10 regions.

Regional support.....	727,700	1,224,300	+ 496,600

Regional support resources cover a variety of program costs which are applicable to more than one program activity. These costs include

communications costs, such as Federal Telecommunications System (FTS), telephones, toll calls, penalty mail, etc.; printing costs; laboratory and office security and custodial services; supplies and materials; and space rental costs.

An increase of $314,000 is requested to support the full-year costs of regional space acquired by the Agency during 1972. An increase of $182,600 is requested to support the common services costs for the additional staff proposed for 1973.

Construction Grants

Purpose

This appropriation covers the Federal grants that are made available to municipal, intermunicipal, State, and interstate agencies for the construction of waste treatment works and major interceptor sewers under Section 8 of the Federal Water Pollution Control Act, as amended.

Budget Authority	1972	1973	Increase or Decrease
Construction grants....	$2,000,000,000	$2,000,000,000	...
End-of-Year Employment	...	...	...
Man-Years, Total.....	...	...	...

Construction Grants

Justification

1972:	$2,000,000,000
1973:	2,000,000,000
Change:	...

	1972	1973	Change
Construction grants.....	$2,000,000,000	$2,000,000,000	...

Federal grant assistance for the construction of municipal waste treatment works has been authorized since 1956; since that time, through January 31, 1972, $3.4 billion of assistance has been provided for 12,412 projects having a total cost of $12.3 billion. Over this period both the percentages of Federal grants and the annual amount of monies authorized and appropriated has been increased in several steps. The current percentages of Federal assistance range between 30 and 55 percent.

In 1971, EPA assessed planned construction of the Nation's municipal waste treatment facilities using a survey and an economic projection technique. This analysis showed that cities and other local jurisdictions are planning investments for such facilities totalling from $14.5 - $18.1 billion during the time period 1972 through 1976.

In additon, EPA has undertaken an economic analysis to determine the capability of the construction industry to absorb Federal, State, and local funds for municipal facilities construction. Based on the results of the municipal survey and the economic analysis, it has been determined that total investment needs during 1973 will amount to approximately $4.0 billion. It is estimated that the continuing Federal share will result in a Federal funding requirement of $2.0 billion. Accordingly, this amount of funds is requested for 1973.

It is to be recognized that this request is necessary based on assumptions as to the program and appropriation authorities that would be embodied in legislation to amend the Federal Water Pollution Control Act, as amended. Section 8 of the Act, which authorizes construction grants, expired on June 30, 1971.1/ Several bills for amending the Act, including the Administration's bill, a Senate-passed bill and a pending House bill, are being considered in the Congress. Each of these bills would not only extend, but would substantially modify the expired Section 8 authorities. Because it is not possible to predict the final provisions that would be enacted out of the pending bills, the foregoing budget request for 1973 assumes the provisions of the Administration's bill and the implementation of these provisions in addressing the projected national needs for municipal waste treatment facilities as indicated above.

1/ Section 8 has subsequently been extended through April 30, 1972.

Construction Grants

Summary of Available Funds
(in thousands of dollars)

	1971	1972	1973
Appropriation.....	...	$2,000,000	...
Budget estimate	...	...	$2,000,000
Transferred from other agencies.....	$1,000,000	...	...
Unobligated balance available, start of year.....	439,891	211,527	231,027
Unobligated balance available, end-of-year.....	-211,527	-231,027	-131,027
Total Available.....	1,228,364	1,980,500	2,100,000

Scientific Activities Overseas
(Special Foreign Currency Program)

Purpose

Scientific Activities Overseas, developed and implemented under the Special Foreign Currency Program, are funded from excess foreign currencies accruing to the United States under various U.S. programs. All of the overseas activities relate to the broad spectrum of national and world-wide concern for environmental problems and contribute directly to the fund of environmental knowledge of the United States, of the host countries, and of the world community. Scientific Activities Overseas not only supplement and complement the domestic mission of EPA, but also serve to carry out the mandate of Section 102(e) of the National Environmental Policy Act to "recognize the world-wide and long-range character of environmental problems, and where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankinds world environment."

	1972	1973	Increase or Decrease
Budget Authority			
Air	$2,637,000	$2,025,000	-$612,000
Water	1,370,000	1,300,000	-70,000
Solid Wastes	647,000	1,175,000	528,000
Pesticides	1,900,000	1,125,000	-775,000
Radiation	296,000	775,000	479,000
Noise	100,000	550,000	450,000
Office of International Affairs Support	50,000	50,000	...
Total	7,000,000	7,000,000	...
End-of-Year Employment	...	...	...
Man-Years, Total	...	...	...

Scientific Activities Overseas
(Special Foreign Currency Program)

Justification

1972: $7,000,000
1973: 7,000,000
Change: ...

The EPA Special Foreign Currency Program is designed to contribute to the solution of environmental problems which confront all Nations. These problems are not limited by national boundaries, nor is their impact altered by ideological and regional differences. Research and research-related activities carried out under the Program therefore offer unique opportunities for cooperation between this country and the excess foreign currency countries. Further, the Program enables EPA to develop productive relationships between American environmental scientists and their counterparts abroad, melding scientific capabilities and resources among nations in a concerted effort to meet mutual objectives. In the excess currency countries, important and unique research opportunities exist for the development of new knowledge and insights that are not readily attainable in the United States, reflecting such conditions as indigenous ecological conditions and research costs that generally are substantially lower abroad. To assure that projects will enhance environmental research efforts in both this country and abroad, all proposals are reviewed by appropriate EPA technical experts. These reviews include the assessment of program relevance, soundness of methodology, and capability of the foreign investigator.

	1972	1973	Change
Air program.....	$2,637,000	$2,025,000	-$612,000

Projects developed by scientists concerned with air pollution problems are directed toward filling gaps in technology by supplementing domestic financial resources and by utilizing the skills and expertise of scientists abroad.

Major projects to be funded with 1972 appropriations include Indian efforts in the research and applications of coal beneficiations, and statistical analyses and processing of air quality data; Polish efforts on coal-cleaning and on the current and historic relationships of stable and radioactive lead; and a Yugoslavian study on the health effects on populations living near mines and smelters.

With 1973 funding, a Polish scientific group will seek to apply present research methods for the measurement of polycyclic hydrocarbons in the development of routine methods of measurement for ready utilization. The National Chemical Laboratory in Poona, India, will investigate gas solid reaction mechanisms and kinetics providing a basis for optimization of the manganese oxide sorption process for removing SO_2 from flue gases. A second Indian project will develop an external catalytic control system for reducing NO_x emissions from power plants. This control technology development represents an area in which there has been little U.S. activity.

Present technology for controlling noxious or unpleasant odors is inadequate. A proposed project in India for development of catalytic material for afterburners will be of substantial assistance in producing an economical control technology.

Economics, lack of authority, construction codes, and lack of experience and motivation are a few of the constraints that impede the application of new pollution technology. Means for implementing findings from research using alternative procedures will include studies directed to developing analytical methods for an environmental early warning system such as the investigations of new techniques for rapid and accurate analysis of atmospheric aerosols with particular emphasis on heavy metal aerosols, and evaluation of new analytical techniques such as the use of X-ray fluorescent and elastic alpha scattering analysis to increase the rate of chemical analyses of effluents while improving accuracy and reducing costs.

The thrust of these studies in Poland and Yugoslavia is to improve techniques for application to routine monitoring of samples to determine, on a continuing basis, the kinds of pollutants entering the environment.

	1972	1973	Change
Water program.....	$1,370,000	$1,300,000	-$70,000

All nations are faced with two common problems: (1) developing standards and techniques that will assure a water supply suitable for drinking and other beneficial purposes, and (2) developing technology for the renovation of wastewaters for reuse. One aspect of the former problem is presently being investigated in Israel in a project on Health Effects of Nitrates in Drinking Water. A project in Yugoslavia is investigating the incidence of blood oxygen deficiencies in children exposed to drinking water with high nitrate content.

Studies to be undertaken with 1972 funds include Indian research on the long-term physiological effects of continued use of poor quality water, and on the isolation of enteric viruses from water; the Tunisians will investigate the effects on water quality resulting from irrigation return flow; and the Yugoslavians will study the role that drinking water quality may play in certain kidney diseases, and the long-term public health effects and benefits of reservoirs and dams.

For 1973, a proposed study in Pakistan is being planned to examine a reported condition in which pathogenic organisms are present in water without the accompaniment of coliform bacteria. If verified, this unique discovery could necessitate a revision of the evaluative criteria for drinking water safety. A microbiological study to be conducted in India would develop procedures and methods for detecting leptospires, organisms causing blood disease, in natural bathing waters and for correlating their presence with fecal coliform. A study in the UAR is being developed to examine the concentration and pathology of the diarrhea and dysentery associated shigella organism in drinking water.

Projects in the field of water pollution will be conducted in Poland and Yugoslavia to investigate meaningful approaches to joint municipal/industrial treatment of wastewaters, mine drainage pollution control, and the problems of silt, nutrients and pesticides run-off. A Polish project will support the initial research involving a laboratory or a small pilot plant investigation of a joint treatment facility for both municipal and either steel or pulp manufacturing wastes. The nature of steel and pulp manufacturing wastes has historically indicated that they not be included in municipal treatment. A second Polish project in mine drainage pollution control will significantly assist in the development of procedures for abating a major source of water pollution in this country. Mine drainage represents a very difficult control situation because of both economic and technical practicality problems.

To supplement EPA's recently initiated effort to solve the principal pollution problem of many of our States, two Yugoslavian efforts will investigate silt, nutrient, and pesticide pollution of waters as a consequence of rural surface drainage.

	1972	1973	Change
Solid wastes program.....	$647,000	$1,175,000	+$528,000

The Resource Recovery Act of 1970 placed new emphasis on recycling and called for studies of methods to encourage resource recovery. Two major studies are planned for initiation in this area, using 1972 funds. A Polish team will conduct research and development of an incinerator system to utilize mixed municipal refuse, low-grade coal, and waste-combustible fluids for steam production. Yugoslavian scientists will undertake research and development of materials purification systems for upgrading components of separated municipal solid wastes. These studies will provide needed information for the U.S. effort in solid waste management and will initiate working relationships between U.S. scientists and their counterparts abroad.

With 1973 funds, Poland will analyze procedures and methods for disposal of organic industrial wastes. With the accelerating restrictions against discharge of these wastes into streams, industries are increasingly turning to land disposal methods, which often result in undesirable aesthetic effects and contamination of surface and groundwaters. The analysis would develop appropriate procedures for mixing these wastes with soils for biological and/or chemical attenuation of the organic materials. India will engage in a project to evaluate the technology of the pyrolysis method of solid waste disposal and the technology of separating by-product gases and liquids. The project will emphasize the use of pyrolysis as a new industrial source for raw chemical materials.

Pakistan will conduct extensive research on the components of agricultural crop residues, leading to the development of new processing, either chemical or microbiological, to convert these residues into economically usable materials.

	1972	1973	Change
Pesticides program.....	$1,900,000	$1,125,000	-$775,000

It is generally recognized that pesticides and other toxic chemical residues are ubiquitous in the world today. Consequently, research efforts on the occurrence and effects of chemical residues on man and other life forms, and the environment in general, are of interest and overt concern to persons everywhere.

Three studies are planned for the Indian government in 1972. They include an effort to epidemiologically survey the population in a nonindustrialized but heavy pesticide-use area; the development of a method to biologically monitor the presence of pesticides; and analyses and studies on the rate of movement and biodegradability of pesticides in irrigated agriculture.

A program to develop alternatives to conventional chemical pesticides will be emphasized for all excess currency countries having the interest and technical capability. These studies are needed to assist existing domestic programs that are attempting to meet our needs for new technology to replace highly toxic or persistent chemical pesticides. This effort will be closely coordinated with existing domestic research in this Agency and the Department of Agriculture. In 1972, a major Polish effort to develop biological alternatives to chemical pesticides will be funded.

In 1973, Indian government scientists will assess the pesticide residues in soil and food in areas of high and low pesticide usage. Other Indian laboratories will study the chemodynamics of pesticides with particular respect to the contributory effects of "run-off" and soil erosion. Polish doctors will research the cause-effect relationship, if any, between pesticides, their residues, and human disease.

Pesticides represent only one important aspect of the toxic chemicals polluting our environment and endangering man and his resources. Polychlorinated biphenols, mercury, and nitrates are a few examples of other man-made chemicals that are of increasing concern from a health point of view. Consideration of the problems posed by these environmental pollutants will be given in the research programs developed under the general category of pesticides and other toxic chemical residues.

Radiation program.....	296,000	775,000	+479,000

Research activities abroad enhance domestic radiation protection progress in the development of protection criteria, standards and policies, methodology for measuring and controlling radiation exposure to man, and assessment and evaluation of the impact of new and developing radiation technology on man and the environment.

Included in the planned 1972 studies are Polish research on the biological incorporation of tritium and the bone deposition of bone seeking radionuclides. The Indians will conduct an epidemiological study of the residents of Kerala, South India, where high levels of naturally occurring background radiation exist, and will also study the action of radiation and radiomimetic agents on biological systems.

Proposed studies using 1973 funds in Poland, Yugoslavia, and the UAR will lead to new insights on such subjects as the toxicity of radioiodine, solidification of radioactive xenon and krypton, and the influence of climate on absorption, distribution, and excretion of selected radionuclides, including those resulting from fly ash. Among other things, the krypton studies may determine the feasibility of collection and management of this gas which is associated with nuclear power plants and fuel reprocessing. A study to correlate inhalation of lead 210 and relatable physiological measurements will be undertaken in Poland.

	1972	1973	Change
Noise program.....	$100,000	$550,000	+$450,000

Recognition of the noise problem is a matter of universal growing concern. Knowledge of noise control techniques far exceeds knowledge of the effects of noise on the public health and welfare. The first project in this area will be in Yugoslavia, with a study to be conducted with 1972 funds on the sleep disturbance effects of community noise. Studies are proposed in 1973 to conduct experiments and collect comparative data on community noise "climates" in Poland and Yugoslavia. Other studies will assess the effects of noise on health, including physiological stress, and an assessment will be made of the nature and epidemiology of indigenous community noise climates ranging from the quietest rural to the noisiest urban.

Office of International Affairs support.....	50,000	50,000	...

These funds are required, in both 1972 and 1973, for travel to provide program leadership, including exploratory travel and, as appropriate, to pay costs of travel for foreign investigators to visit the United States to develop research proposals.

Scientific Activities Overseas
(Special Foreign Currency Program)

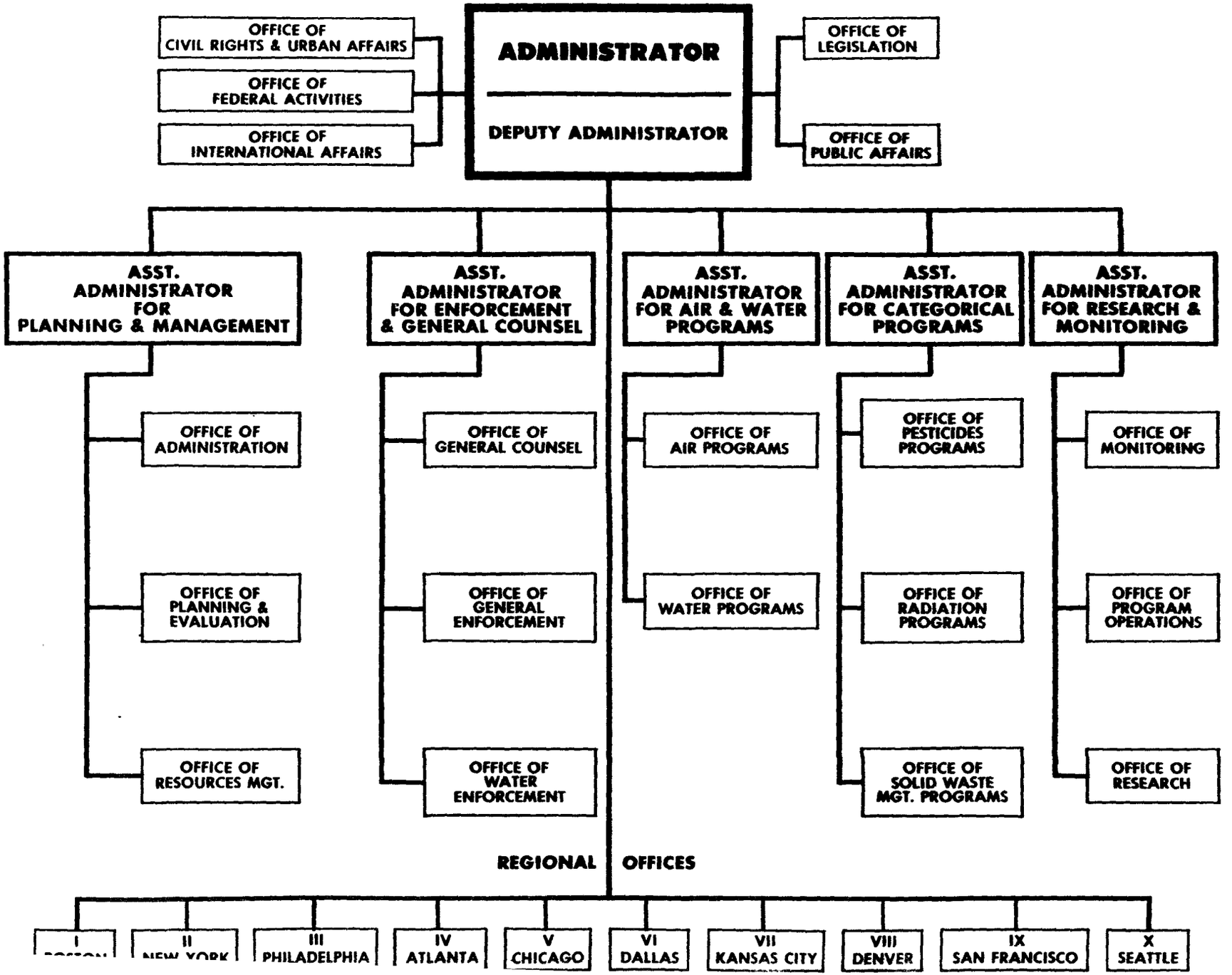
Summary of Available Funds
(in thousands of dollars)

	1971	1972	1973
Appropriation.....	...	$7,000	...
Budget estimate.....	...	...	$7,000
Transferred from other agencies...	$3,500	...	...
Unobligated balance available, start of year.....	...	795	...
Unobligated balance available, end of year.....	-795	...	...
Total Available.....	2,705	7,795	7,000

Special Analyses

Contents

ENVIRONMENTAL PROTECTION AGENCY

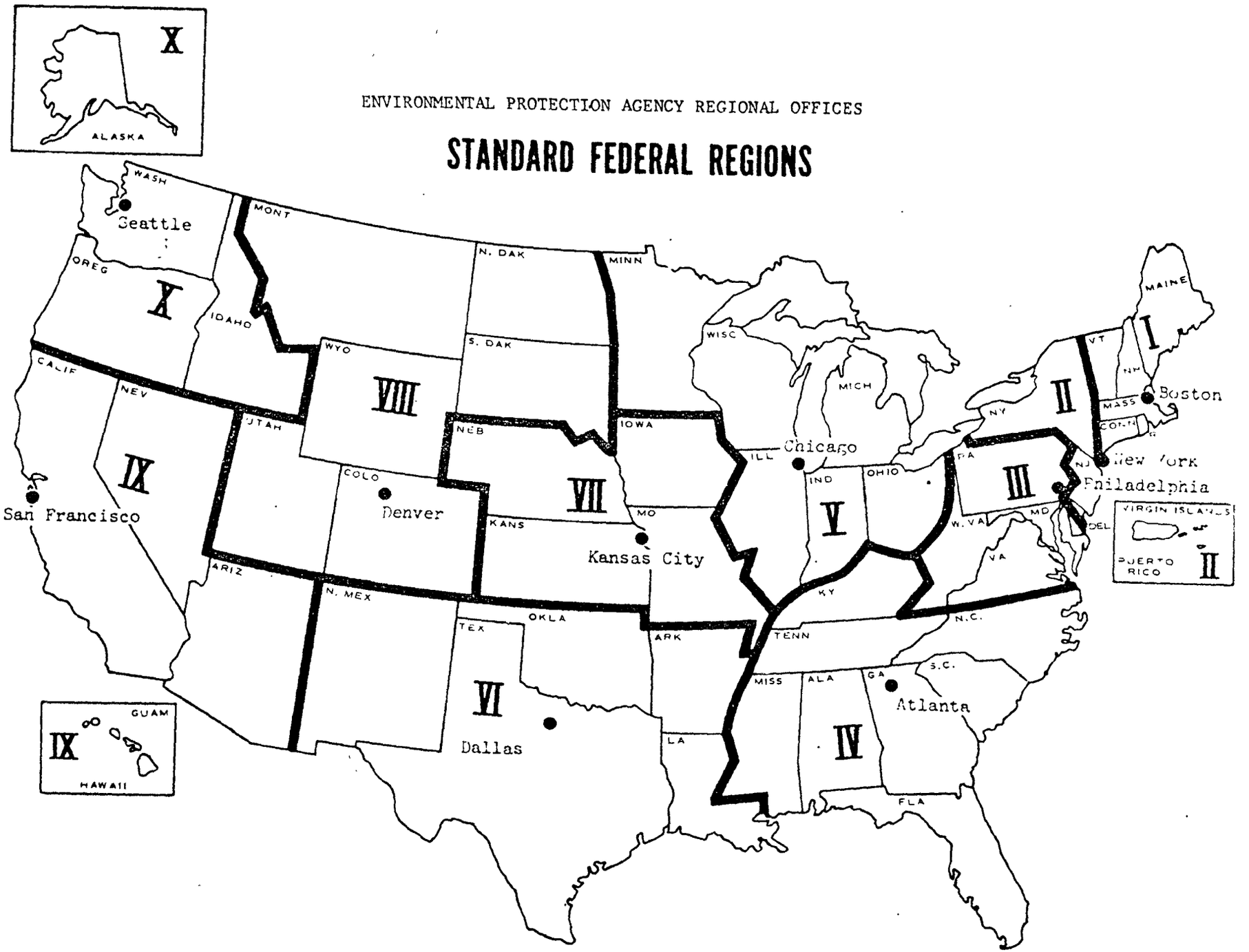


EPA Regions
Headquarters Locations and States

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, Maryland, Pennsylvania, Virginia, West Virginia, District of Columbia
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, Texas, Oklahoma
Region VII	Headquarters, Kansas City, Missouri Iowa, Kansas, Missouri, Nebraska
Region VIII	Headquarters, Denver, Colorado Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming
Region IX	Headquarters, San Francisco, California Arizona, California, Hawaii, Nevada, American Samoa, Guam, Trust Territories of Pacific Islands, Wake Island
Region X	Headquarters, Seattle, Washington Alaska, Idaho, Oregon, Washington

ENVIRONMENTAL PROTECTION AGENCY REGIONAL OFFICES

STANDARD FEDERAL REGIONS



Summary of Resources

	1971*	1972	1973	Increase or Decrease
Operations, Research, and Facilities				
Budget authority	$285,284,000	$440,520,318	$439,300,000	-$1,220,318
Obligations	283,390,000	409,298,274	498,493,591	89,195,317
Outlays	224,251,000	375,300,000	416,000,000	40,700,000
Permanent positions	7,026	8,065	8,526	461
Man-years	5,202	6,347	7,525	1,178
End-of-year employment	5,787	7,818	8,279	461
Construction Grants				
Budget authority	$1,000,000,000	$2,000,000,000	$2,000,000,000	...
Obligations	1,228,364,000	1,980,500,000	2,100,000,000	$119,500,000
Outlays	478,366,000	908,000,000	1,100,000,000	192,000,000
Permanent positions	...	...	...	...
Man-years	...	...	...	...
End-of-year employment	...	...	...	...
Scientific Activities Overseas				
Budget authority	$3,500,000	$7,000,000	$7,000,000	...
Obligations	2,705,000	7,795,000	7,000,000	-$795,000
Outlays	...	3,700,000	6,000,000	2,300,000
Permanent positions	...	...	...	...
Man-years	...	...	...	...
End-of-year employment	...	...	...	...
Revolving Fund				
Budget authority	...	...	...	...
Obligations	$26,000	$309,000	$1,109,000	$800,000
Outlays	-26,000	...	...	...
Permanent positions	12	12	51	39
Man-years	12	12	51	39
End-of-year employment	12	12	51	39

	1971*	1972	1973	Increase or Decrease
Advances and Reimbursements				
Budget authority	...	...	...	...
Obligations	$3,911,000	$5,216,000	$6,195,000	$979,000
Outlays	-1,247,000	...	...	...
Permanent positions	152	162	162	...
Man-years	150	160	160	...
End-of-year employment	152	162	162	...
Total, Environmental Protection Agency				
Budget authority	$1,288,784,000	$2,447,520,318	$2,446,300,000	-$1,220,318
Obligations	1,518,396,000	2,403,118,274	2,612,797,591	209,679,317
Outlays	701,344,000	1,287,000,000	1,522,000,000	235,000,000
Permanent positions	7,190	8,239	8,739	500
Man-years	5,364	6,519	7,736	1,217
End-of-year employment	5,951	7,992	8,492	500

*Figures shown for 1971 are as shown in the 1973 President's Budget. Amounts for 1971 reflect those appropriation accounts transferred in their entirety and partial transfer (from December 2, 1970--June 30, 1971) from split appropriation accounts.

Summary of End-of-Year Employment and Man-Years

Operations, Research, and Facilities	1972 EOY	1972 Man-Years	1973 EOY	1973 Man-Years	Increase or Decrease EOY	Increase or Decrease Man-Years
Research and Development	1,732	1,367	1,756	1,580	24	213
Air	434	320	425	375	-9	55
Water Quality	529	418	537	488	8	70
Water Hygiene	81	72	81	76	...	4
Solid Wastes	65	59	65	61	...	2
Pesticides	109	96	120	109	11	13
Radiation	93	87	92	86	-1	-1
Noise	...	...	...	...	...	...
Interdisciplinary	33	25	69	39	36	14
Program Management and Support	388	290	367	346	-21	56
Abatement and Control	3,513	2,702	3,654	3,362	141	660
Air	781	622	889	787	108	165
Water Quality	1,500	1,018	1,500	1,410	...	392
Water Hygiene	90	77	90	85	...	8
Solid Wastes	147	130	160	146	13	16
Pesticides	432	369	446	396	14	27
Radiation	177	158	183	171	6	13
Noise	9	9	9	9	...	...
Interdisciplinary	8	7	8	8	...	1
Program Management and Support	369	312	369	350	...	38
Enforcement	985	883	1,231	1,060	246	177
Air	57	51	143	104	86	53
Water Quality	727	649	877	759	150	110
Pesticides	80	77	80	77	...	...
Program Management and Support	121	106	131	120	10	14

	1972		1973		Increase or Decrease	
	EOY	Man-Years	EOY	Man-Years	EOY	Man-Years
Facilities	...	...	...	...	...	...
Agency and Regional Management	1,588	1,395	1,638	1,523	50	128
Agency Management.....	1,194	1,061	1,194	1,126	...	65
Regional Management.....	394	334	444	397	50	63
Subtotal.....	7,818	6,347	8,279	7,525	461	1,178
Man-years, other than permanent positions.....	...	752	...	811	...	59
Total, Operations, Research, and Facilities.....	7,818	7,099	8,279	8,336	461	1,237
Revolving Fund						
Abatement and Control	12	12	51	51	39	39
Pesticides.....	12	12	51	51	39	39
Man-years, other than permanent positions.....	...	...	...	...	...	...
Total, Revolving Fund.....	12	12	51	51	39	39
Advances and Reimbursements						
Research and Development	7	7	7	7	...	...
Pesticides.....	7	7	7	7	...	...
Abatement and Control	155	153	155	153	...	...
Water.....	13	12	13	12	...	...
Radiation.....	142	141	142	141	...	...
Subtotal.....	162	160	162	160	...	...

	1972		1973		Increase or Decrease	
	EOY	Man-Years	EOY	Man-Years	EOY	Man-Years
Man-years, other than permanent positions.....	...	48	...	48	...	...
Total, Advances and Reimbursements.....	162	208	162	208	...	...
Grand Total						
End-of-year employment and man-years.....	7,992	6,519	8,492	7,736	500	1,217
Man-years, other than permanent positions.....	...	800	...	859	...	59
Total.....	7,992	7,319	8,492	8,595	500	1,276

Operations, Research, and Facilities
Total Funds Available, 1972

	1972			
	Budget Authority	Unobligated Balance Brought Forward	Unobligated Balance Carried Forward	Total Available
Research and Development	$165,042,818	$13,012,589	$15,700,000	$162,355,407
Air	58,131,418	8,778,706	...	66,910,124
Water Quality	51,128,600	...	...	51,128,600
Water Hygiene	2,266,700	...	...	2,266,700
Solid Wastes	25,529,800	4,209,710	15,700,000	14,039,510
Pesticides	3,950,400	...	...	3,950,400
Radiation	2,690,100	...	...	2,690,100
Noise	196,000	...	...	196,000
Interdisciplinary	5,214,000	...	...	5,214,000
Program Management and Support	15,935,800	24,173	...	15,959,973
Abatement and Control	184,428,800	4,306,281	...	188,735,081
Air	74,706,100	3,099,678	...	77,805,778
Water Quality	62,428,200	170,637	...	62,598,837
Water Hygiene	1,761,300	...	...	1,761,300
Solid Wastes	7,615,500	837,144	...	8,452,644
Pesticides	11,469,000	...	...	11,469,000
Radiation	4,305,200	...	...	4,305,200
Noise	992,700	151,526	...	1,144,226
Interdisciplinary	99,800	...	...	99,800
Program Management and Support	21,051,000	47,296	...	21,098,296
Enforcement	20,946,800	383,128	...	21,329,928
Air	1,368,000	...	...	1,368,000
Water Quality	13,793,700	370,516	...	14,164,216
Pesticides	1,034,900	...	...	1,034,900
Program Management and Support	4,750,200	12,612	...	4,762,812

	1972			
	Budget Authority	Unobligated Balance Brought Forward	Unobligated Balance Carried Forward	Total Available
Facilities	28,000,000	9,905,485	35,093,591	2,811,894
New Facilities.....	28,000,000	7,293,591	35,093,591	200,000
Repairs and Improvements....	...	2,611,894	...	2,611,894
Agency and Regional Management	33,701,900	364,082	...	34,065,982
Agency Management.....	25,638,300	24,021	...	25,662,321
Regional Management.....	8,063,600	340,061	...	8,403,661
Employment Reduction Savings	8,400,000	...	8,400,000	...
Total.....	440,520,318	27,971,565	59,193,591	409,298,292

Operations, Research, and Facilities
Total Funds Available, 1973

	1973		
	Budget Authority	Unobligated Balance Brought Forward	Total Available
Research and Development	$165,596,400	$20,323,400	$185,919,800
Air	70,712,000	2,473,800	73,185,800
Water Quality	51,105,800	1,144,600	52,250,400
Water Hygiene	2,225,700	145,300	2,371,000
Solid Wastes	10,375,200	16,160,200	26,535,400
Pesticides	4,915,600	48,400	4,964,000
Radiation	2,662,700	48,400	2,711,100
Noise	283,500	...	283,500
Interdisciplinary	7,455,800	...	7,455,800
Program Management and Support	15,860,100	302,700	16,162,800
Abatement and Control	204,664,700	2,787,600	207,452,300
Air	85,389,100	105,200	85,494,300
Water Quality	67,112,200	1,650,700	68,762,900
Water Hygiene	1,730,700	108,700	1,839,400
Solid Wastes	10,864,600	218,000	11,082,600
Pesticides	12,473,200	484,100	12,957,300
Radiation	4,494,200	108,900	4,603,100
Noise	895,000	36,300	931,300
Interdisciplinary	99,800	...	99,800
Program Management and Support	21,605,900	75,700	21,681,600
Enforcement	28,059,400	989,000	29,048,400
Air	2,641,500	8,400	2,649,900
Water Quality	18,691,700	895,500	19,587,200
Pesticides	1,010,900	85,100	1,096,000
Program Management and Support	5,715,300	...	5,715,300

	1973		
	Budget Authority	Unobligated Balance Brought Forward	Total Available
Facilities	1,000,000	35,093,591	36,093,591
New Facilities.....	...	35,093,591	35,093,591
Repairs and Improvements.....	1,000,000	...	1,000,000
Agency and Regional Management	39,979,500	...	39,979,500
Agency Management.....	30,735,200	...	30,735,200
Regional Management.....	9,244,300	...	9,244,300
Employment Reduction Savings	...	...	...
Total.....	439,300,000	59,193,591	498,493,591

ENVIRONMENTAL PROTECTION AGENCY

Summary of Authorization vs. Budget Authority
(in thousands of dollars)

	1972		1973	
	Authorization	Budget Authority	Authorization	Budget Authority
Federal Water Pollution Control Act, as amended, (See Page SA-14).....	$1,826,927	$2,092,059	$28,719	$2,096,467
Clean Air Act, as amended (See Page SA-16).	390,000	143,015	475,000	170,008
Solid Waste Disposal Act, as amended (See Page SA-17).....	152,000	34,912	216,000	23,197
Noise Pollution and Abatement Act of 1970 (See Page SA-18).....	29,684	1,189	28,495	1,179
Subtotal.....	2,398,611	2,271,175	748,214	2,290,851
All other EPA funds for which appropriation authorization is not provided in Acts; appropriation is by virtue of Appropriation Act.....	...	176,345	...	155,449
Total.....	2,398,611	2,447,520	748,214	2,446,300

ENVIRONMENTAL PROTECTION AGENCY
Authorization VS. Budget Authority
(in thousands of dollars)

Federal Water Pollution Control Act, as amended	1972 Authorization	1972 Budget Authority	1973 Authorization	1973 Budget Authority
Section 5(g)(1), Training Pilot Program.	$6,472[b]	$1,906	a/	$1,906
Section 5(g)(2), Manpower Planning.....	2,428[b]	710	a/	703
Section 5, Research, Investigations, Training and Information (Other than Section 5(g)(1) and (2)).....	53,264[b]	60,697	a/	59,711
Section 6, Grants for Research and Development.....	43,339[b]	10,701	a/	9,902
Section 7, Grants for Water Pollution Control Programs.....	15,000[b]	15,000	a/	20,000
Section 8, Grants for Construction.....	1,650,000[b]	2,000,000	a/	2,000,000
Section 14, Area Acid and Other Mine Water Pollution Control Demonstrations.	11,839[c]	2,240	$9,599[c]	2,240
Section 15, Pollution Control in Great Lakes.....	19,185[c]	65	19,120[c]	1,665
Section 19, Authorization for Section 16, Training Grants and Contracts and Section 18, Award of Scholarships.....	25,000	340	a/	340

	1972		1973	
	Authorization	Budget Authority	Authorization	Budget Authority
Section 20, Alaska Village Demonstration Project.....	400[d/]	400	...	...
Total.....	1,826,927	2,092,059	28,719	2,096,467

a/ Proposed legislation pending in Congress.
b/ Legislation pending in Congress. Amounts shown represent authority as extended by PL 92-50, PL 92-137 and PL 92-240.
c/ Authorization is available until expended. Figures shown represent balance remaining of initial authorization.
d/ Authorization did not provide a specific year. 1972 figure represents balance remaining of initial authorization.

ENVIRONMENTAL PROTECTION AGENCY
Authorization VS. Budget Authority
(in thousands of dollars)

	1972		1973	
	Authorization	Budget Authority	Authorization	Budget Authority
Clean Air Act, as amended				
Section 103(f)(3)--Research, Investigations, Training, and Other Activities.....	$15,000*	...	...	...
Section 104--Research Relating to Fuels and Vehicles.....	125,000	$34,818	$150,000	$39,509
Section 212--Development of Low Emission Vehicles.....	25,000	...	25,000	...
Section 316--Research, Investigations, Training, and Other Activities.....	225,000	108,197	300,000	130,499
Total.....	390,000	143,015	475,000	170,008

*Amounts appropriated shall remain available until expended and shall be in addition to any other appropriations under this Act.

ENVIRONMENTAL PROTECTION AGENCY
Authorization VS. Budget Authority
(in thousands of dollars)

	1972		1973	
	Authorization	Budget Authority	Authorization	Budget Authority
Solid Waste Disposal Act, as amended				
Section 208, Demonstration for Resources Recovery Systems and Improved Solid Waste Disposal Facilities.....	$80,000	$11,593	$140,000	...
Section 216(a)(1) and (2), Authorization For Carrying Out Provisions of Act, Other Than Section 208.....	72,000	23,319	76,000	$23,197
Total.....	152,000	34,912	216,000	23,197

ENVIRONMENTAL PROTECTION AGENCY
Authorization vs. Budget Authority
(in thousands of dollars)

	1972		1973	
	Authorization	Budget Authority	Authorization	Budget Authority
Noise Pollution and Abatement Act of 1970				
Section 403, Authorization for Carrying Out Purposes of Act.....	$29,684[a/]	$1,189	$28,495[a/]	$1,179

a/ Authorization did not provide a specific year. Figures represent balance remaining of initial authorization.