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Environmental Protection Agency
FY 2006 Annual Performance Plan and Congressional Justification

APPROPRIATION: Science & Technology
Resource Summary Table
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Science & Technology				
Budget Authority / Obligations	$758,075.4	$689,185.0	$760,640.0	$71,455.0
Total Workyears	2,424.2	2,460.5	2,438.1	-22.4

BILL LANGUAGE: SCIENCE AND TECHNOLOGY (INCLUDING TRANSFER OF FUNDS)

For science and technology, including research and development activities, which shall include research and development activities under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended; necessary expenses for personnel and related costs and travel expenses, including uniforms, or allowances therefore, as authorized by 5 U.S.C. 5901-5902; services as authorized by 5 U.S.C. 3109, but at rates for individuals not to exceed the per diem rate equivalent to the maximum rate payable for senior level positions under 5 U.S.C. 5376; procurement of laboratory equipment and supplies; other operating expenses in support of research and development; construction, alteration, repair, rehabilitation, and renovation of facilities, not to exceed $85,000 per project, [$750,061,000] *$760,640,000* which shall remain available until September 30, [2006: *Provided,* That of the amounts made available under this heading $1,000,000 shall be transferred to the Office of Environmental Quality Management fund] *2007, of which $18,000,000 shall be derived from the Environmental Services fund.* (*Departments of Veterans Affairs and Housing and Urban Development and Independent Agencies Appropriations Act, 2005*.)

Program Projects in S&T
(Dollars in Thousands)

Program Project	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Clean Air Allowance Trading Programs	$4,236.6	$9,352.9	$9,352.9	$0.0
Climate Protection Program	$21,794.6	$17,458.9	$17,732.5	$273.6
Congressionally Mandated Projects	$69,904.2	$0.0	$0.0	$0.0
Drinking Water Programs	$2,941.9	$2,999.7	$3,068.5	$68.8
Facilities Infrastructure and Operations	$9,331.4	$8,715.8	$8,715.8	$0.0
Federal Support for Air Quality Management	$10,497.3	$10,048.7	$10,015.9	($32.8)
Federal Support for Air Toxics Program	$2,168.1	$2,582.9	$2,264.6	($318.3)
Federal Vehicle and Fuels Standards and Certification	$59,247.5	$64,466.5	$66,567.5	$2,101.0
Forensics Support	$11,958.5	$12,721.5	$13,737.0	$1,015.5
Homeland Security: Critical Infrastructure	$17,822.3	$3,515.6	$47,568.7	$44,053.1

Program Project	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Protection				
Homeland Security: Preparedness, Response, and Recovery	$14,763.9	$25,396.0	$44,116.2	$18,720.2
Homeland Security: Protection of EPA Personnel and Infrastructure	$1,663.1	$2,100.0	$2,100.0	$0.0
Human Health Risk Assessment	$28,084.2	$32,880.4	$36,240.1	$3,359.7
IT / Data Management	$4,611.0	$4,821.4	$4,250.9	($570.5)
Indoor Air: Radon Program	$382.3	$398.5	$441.6	$43.1
Pesticides: Registration of New Pesticides	$2,173.1	$2,403.2	$2,490.0	$86.8
Pesticides: Review / Reregistration of Existing Pesticides	$2,303.5	$2,417.1	$2,506.1	$89.0
Radiation: Protection	$4,185.6	$2,847.0	$2,120.5	($726.5)
Radiation: Response Preparedness	$2,109.1	$2,239.0	$3,576.3	$1,337.3
Reduce Risks from Indoor Air	$755.4	$906.1	$831.8	($74.3)
Research: Air Toxics	$20,052.4	$17,638.9	$16,386.7	($1,252.2)
Research: Drinking Water	$43,036.6	$46,118.1	$45,690.0	($428.1)
Research: Endocrine Disruptor	$11,616.1	$8,044.0	$8,705.0	$661.0
Research: Environmental Technology Verification (ETV)	$3,542.9	$2,996.8	$3,202.6	$205.8
Research: Human Health and Ecosystems	$175,970.3	$177,407.5	$169,632.3	($7,775.2)
Research: Land Protection and Restoration	$10,230.3	$8,841.9	$13,696.5	$4,854.6
Research: Particulate Matter	$63,228.9	$63,690.8	$0.0	($63,690.8)
Research: Pesticides and Toxics	$33,073.2	$29,017.7	$29,752.7	$735.0
Research: Pollution Prevention	$48,971.5	$33,467.5	$0.0	($33,467.5)
Research: Water Quality	$47,049.1	$46,809.8	$55,899.8	$9,090.0
Research: Computational Toxicology	$5,917.0	$13,028.7	$13,832.4	$803.7
Research: Economics and Decision Science(EDS)	$0.0	$0.0	$2,644.6	$2,644.6
Research: Fellowships	$2,183.3	$8,261.6	$8,326.8	$65.2
Research: Global Change	$16,791.9	$20,689.6	$20,534.4	($155.2)
Research: NAAQS	$0.0	$0.0	$71,451.5	$71,451.5
Research: Sustainability	$0.0	$0.0	$23,187.8	$23,187.8
TRI / Right to Know	$89.5	$0.0	$0.0	$0.0

Goal: Clean Air and Global Climate Change
Objective(s): Healthier Outdoor Air; Enhance Science and Research

Total Request for Appropriation S&T: $9,352.9 (Dollars in Thousands)

Clean Air Allowance Trading Programs (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Environmental Program & Management	$17,471.3	$17,495.8	$18,234.2	$738.4
Science & Technology	***$4,236.6***	***$9,352.9***	***$9,352.9***	***$0.0***
Total Budget Authority / Obligations	$21,707.9	$26,848.7	$27,587.1	$738.4
Total Workyears*	94.3	86.4	86.2	-0.2

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

While significant progress has been made under the existing Clean Air Act, further benefits could be achieved faster, with more certainty, and at less cost to consumers through Clear Skies – an Administration legislative proposal that expands the current Acid Rain program to dramatically reduce nationwide power plant emissions of SO_2 and NO_x, as well as, for the first time ever, reduce mercury emissions from power plants. Clear Skies would reduce emissions of these three pollutants by nearly 70 percent while encouraging innovation and the deployment of cleaner, more cost effective technologies. This legislation was submitted to Congress in 2002 and the Administration continues to promote its enactment.

Although Clear Skies is the more comprehensive and cost effective approach and therefore the strongly preferred solution, the Administration is pursuing a regulatory path that would achieve many of the same benefits should legislation not be enacted. EPA has proposed the Clean Air Interstate Rule (CAIR) which regulates the transport of powerplant emissions of SO_2 and NO_x across State lines via a market-based approach similar to Clear Skies and the existing Acid Rain program. CAIR is projected to further reduce pollution from electrical power generation sources by close to an additional 70%, when fully implemented.

Both Clear Skies and CAIR call for utilities to utilize a cap and trade program modeled after the Acid Rain SO_2 Allowance Trading Program. The Acid Rain Program provides incentives for operators of power plants to find the best, fastest, and most efficient ways to make the required reductions in emissions as well as to do make reductions earlier than required.

EPA is responsible for managing the Clean Air Status and Trends Network (CASTNET), a dry deposition monitoring network, as well as for providing operational support for the National

Atmospheric Deposition Program (NADP), a wet deposition monitoring network. Both of these networks will provide critical information to support the implementation of Clear Skies or CAIR, or other similar programs. CASTNET is a national long-term atmospheric deposition monitoring network established in 1987 and serves as the nation's primary source for atmospheric data on the dry deposition component of total acid deposition, rural ground-level ozone and other forms of atmospheric pollution that enter the environment as particles and gases. Used in conjunction with the NADP and other networks, CASTNET long-term datasets and data products are used to determine the efficacy of national emission control programs through monitoring geographic patterns and temporal trends in ambient air quality and atmospheric deposition in rural areas of the country. Maintaining a robust long-term atmospheric deposition monitoring network is critical for the accountability of the current Acid Rain Program as well as other market-based programs (NO_x Budget Program, Clear Skies/ CAIR). These monitoring efforts play a crucial role in the Agency's ongoing assessment activities, including reporting outcomes under the Program Assessment Rating Tool (PART) and the Government Performance and Results Act (GPRA), and fulfilling assessment responsibilities under the U.S.-Canada Air Quality Agreement and Title IX of the Clean Air Act.

This program was included in the Air Toxics PART review in 2006, which received an overall rating of Adequate; more information is included in the Special Analysis Section.

FY 2006 Activities and Performance Highlights

The activities listed below will be necessary to support the implementation of CAIR, Clear Skies, or a comparable program.

- Provide litigation program support Conduct legal, technical, and economic analyses to support timely implementation; continue assessing regulatory impacts on the U.S. economy, environment, small business, and local communities. Harmonize Part 75 (Acid Rain Program) provisions with requirements.

- Assist States in implementation Provide technical assistance to States in developing rules to implement the new program. Review State plans; assist States in resolving applicability, monitoring, and provide technical support as necessary.. Provide outreach, allowance trading education, and orientation for States and affected industry.

- Maximize flexibility for affected sources Develop software that will facilitate optimum trading of emissions by building on existing Acid Rain electronic allowance trading and emissions reporting systems.

- Develop the operating infrastructure Effective and efficient operation of the new program depends critically upon further development of the e-GOV infrastructure supporting the existing Acid Rain electronic allowance trading and emissions reporting systems. Data collection requirements must be determined and operating software and hardware specifications developed. Initial software development should also begin to expand current tracking systems to handle the additional complexity of the new program.

- Develop baselines and prepare to assess program benefits Establish an integrated assessment program to include enhanced ambient and deposition monitoring, efficiency measures that will include the total cost of the program, and indicators to track health and environmental benefits, as called for in the recent report by the National Academy of Sciences. Develop baselines prior to implementation of the program.

- Ensure the program's credibility and results Successful trading programs require accurate and consistent monitoring of emissions from affected sources. Propose performance specifications and investigate monitoring alternatives and methods for improving the efficiency of monitor certification and emissions reporting processes, especially for a set of new sources that will be entering market-based NO_x and SO_2 control programs for the first time.

In FY 2006, the program will continue a multi-year refurbishment project to modernize and enhance CASTNET to ensure the viability of this aging network and to enhance the monitoring capacity to support ongoing and future accountability needs, particularly relating to interstate pollutant transport. EPA will:

- Continue a pilot phase study to evaluate options for upgrading CASTNET with new advanced measurement instrumentation.
- Select and procure advanced technology monitoring equipment where necessary for additional CASTNET sites, extending the pilot technology to a broader representation of field conditions.
- Expand a technology assessment program to compare performance of new and existing CASTNET monitoring instrumentation.
- Initiate a data comparability study to evaluate how the data collected by the advanced technology instrumentation compares and relates to the existing long-term CASTNET data to preserve the integrity of the long-term data record.
- Identify and begin development of new ecological indicators of air quality and atmospheric deposition to expand the suite of environmental metrics available for measuring the performance and efficiency of our operating programs consistent with the PART measures developed in cooperation with OMB.

In addition, the program provides analytical support for the interagency National Acid Precipitation Assessment Program (NAPAP). NAPAP coordinates Federal acid deposition research and monitoring of emissions, acidic deposition, and their effects, including assessing the costs and benefits of Title IV. In 2006, the program will continue analyzing the costs and benefits of the Acid Rain Program for inclusion in NAPAP's Integrated Assessment Report.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- No change in funding.

Statutory Authority

Clean Air Act (42 U.S.C. 7401-7661f)

Goal: Clean Air and Global Climate Change
Objective(s): Enhance Science and Research

Total Request for Appropriation S&T: $17,732.5 (Dollars in Thousands)

Climate Protection Program (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Environmental Program & Management	$88,524.8	$91,961.3	$95,529.9	$3,568.6
Science & Technology	***$21,794.6***	***$17,458.9***	***$17,732.5***	***$273.6***
Total Budget Authority / Obligations	$110,319.4	$109,420.2	$113,262.4	$3,842.2
Total Workyears*	218.9	224.0	216.3	-7.7

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

EPA's Clean Automotive Technology (CAT) and Fuel Cell and Hydrogen programs remove barriers in the marketplace and deploy technology faster in the residential, commercial, transportation, and industrial sectors of the economy. The Agency's CAT program supports the development of advanced clean and fuel-efficient automotive technology that allows increased energy conservation and improved protection of the environment. Through cooperative research and development agreements (CRADAs) with the automotive, trucking, and fleet industries, technology developments will be demonstrated in vehicles such as large SUVs, pickup trucks, urban delivery trucks, school buses, shuttle buses, and refuse trucks. These demonstration projects are intended to lead to the initial commercial introduction of these technologies by vehicle manufacturers.

Under the Fuel Cell and Hydrogen program, EPA has become involved in several efforts to demonstrate and evaluate hydrogen and fuel cell technologies. EPA will continue working closely with key stakeholders through public/private partnerships like the California Fuel Cell Partnership[1] to facilitate the commercialization of innovative technologies. EPA works closely with the Department of Energy and other agencies as necessary on fuel cell and hydrogen-related efforts.

This program underwent a PART review in 2006 and received a rating of adequate; more information is included in the Special Analysis Section.

[1]Additional information can be accessed at: http://www.fuelcellpartnership.org last accessed 1/19/2005

FY 2006 Activities and Performance Highlights

In FY 2006, the CAT Program will:

- demonstrate hydraulic-hybrid and clean engine technologies in an urban delivery vehicle or large SUV to achieve 50-80 percent better fuel economy than the typical baseline vehicle, while meeting or exceeding 2007/2010 Heavy Duty or Tier 2 Bin 5 Light Duty standards (e.g., if a typical large SUV has a baseline fuel economy of 17.0 mpg, the program would demonstrate 25.5-30.6 mpg for such a vehicle);
- provide technology transfer expertise to partners for clean engine technologies; and
- provide technology transfer expertise to partners for hydraulic hybrid technologies.

In FY 2006, the Fuel Cell and Hydrogen Program will:

- continue to develop and participate in effective government/industry partnerships that advance fuel cell and hydrogen fueling vehicle technologies;
- continue evaluation of the new-technology "Sprinter" delivery vehicle as a part of the EPA/Daimler Chrysler/UPS Fuel Cell Deliver Vehicle Testing partnership (the first real-world demonstration of a medium duty fuel cell vehicle in the US);
- certify fuel cell vehicles for several manufacturers;
- test and evaluate fuel cell vehicles through agreements with vehicle manufacturers and as part of DOE's Validation Program;
- continue to expand our role in developing hydrogen fueling infrastructure by fueling additional hydrogen vehicles to be deployed in Michigan under DOE's Validation Program;
- working regionally and nationally with vehicle manufacturers, energy companies, governments, and other stakeholders to coordinate new hydrogen infrastructure plans; and
- continue to improve the MOVES-GREET life-cycle modeling platform and use the platform to perform comparative analyses of hydrogen and other vehicle technology pathways as appropriate.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- There are increases for payroll and cost of living for existing FTE.

Statutory Authority

Clean Air Act Amendments, 42 U.S.C. 7401 et seq. - Sections 102, 103, 104, and 108; Pollution Prevention Act, 42 U.S.C. 13101 et seq. - Sections 6602, 6603, 6604, and 6605; National Environmental Policy Act, 42 U.S.C. 4321 et seq. - Section 102; Global Climate Protection Act, 15 U.S.C. 2901 - Section 1103; Federal Technology Transfer Act, 15 U.S.C. - Section 3701a, Clean Water Act, 33 U.S.C. 1251 et seq.- Section 104, Solid Waste Disposal Act, 42 U.S.C. 6901 et seq.- Section 8001

Goal: Clean and Safe Water
Objective(s): Protect Human Health

Total Request for Appropriation S&T: $3,068.5 (Dollars in Thousands)

Drinking Water Programs (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Environmental Program & Management	$90,553.9	$97,947.9	$101,089.9	$3,142.0
Science & Technology	***$2,941.9***	***$2,999.7***	***$3,068.5***	***$68.8***
Total Budget Authority / Obligations	$93,495.8	$100,947.6	$104,158.4	$3,210.8
Total Workyears*	585.6	597.9	588.6	-9.3

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

The resources in this program support the Drinking Water Technical Support Center (TSC), which evaluates engineering and scientific data, collects and evaluates contaminant occurrence data, evaluates treatment technologies, develops and evaluates monitoring approaches and analytical methods, and develops and disseminates treatment plant performance improvement mechanisms to affect development and implementation of National Primary Drinking Water Regulations that ensure the safety of drinking water. The Center also provides external technical assistance in support of EPA Regional and state drinking water programs. (For more information, visit http://www.epa.gov/safewater/).

FY 2006 Activities and Performance Highlights

In FY 2006, the TSC will:

- Provide technical and scientific support for the development and implementation of drinking water regulations;
- Implement EPA's Drinking Water Laboratory Certification Program that evaluates whether Agency, state, and privately-owned labs are analyzing drinking water samples;
- accurately using approved lab methods and procedures, and whether they are properly implementing quality assurance plans to assure the integrity of laboratory results;
- Support small systems' efforts to optimize their treatment technology under the drinking water treatment Area Wide Optimization Program (AWOP). AWOP is a highly successful technical assistance and training program that enhances the ability of small systems to meet existing and future microbial, disinfectant, and disinfection byproducts standards. By the end of 2006, EPA anticipates 32 states will have worked with the Agency to establish AWOPs;

- Manage the development and implementation of Unregulated Contaminant Monitoring Rule(s) (UCMR2). The 1996 Amendments to the Safe Drinking Water Act require EPA to establish criteria for a monitoring program for unregulated contaminants and to publish a list of contaminants to be monitored. The data generated by the UCMR(s) are used to evaluate and prioritize contaminants on the Drinking Water Contaminant Candidate List, a list of contaminants that EPA, through a stakeholder process, is considering for possible new drinking water standards. This data helps to ensure that future decisions on drinking water standards are based on sound science;
- Support the Partnership for Safe Water, a national voluntary collaborative effort between the water industry and EPA to pursue optimization of the drinking water treatment infrastructure to maximize public health protection;
- Provide analytical method development/validation to enable implementation of the Nation's contaminant monitoring needs; and,
- EPA will also continue to provide grants for studies and demonstrations associated with drinking water security.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- There are increases for payroll and cost of living for existing FTE.

Statutory Authority

Safe Drinking Water Act (SDWA); Clean Water Act (CWA)

Goal: Provide Agency-wide support for multiple goals to achieve their objectives. This support involves Agency-wide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

Total Request for Appropriation S&T: $8,715.8 (Dollars in Thousands)

Facilities Infrastructure and Operations (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Environmental Program & Management	$299,417.3	$326,793.8	$358,045.6	$31,251.8
Science & Technology	***$9,331.4***	***$8,715.8***	***$8,715.8***	***$0.0***
Building and Facilities	$31,382.3	$31,418.0	$28,718.0	($2,700.0)
Leaking Underground Storage Tanks	$862.1	$883.9	$883.9	$0.0
Oil Spill Response	$499.1	$504.4	$504.4	$0.0
Hazardous Substance Superfund	$62,299.2	$70,981.9	$72,725.9	$1,744.0
Total Budget Authority / Obligations	$403,791.4	$439,297.8	$469,593.6	$30,295.8
Total Workyears*	355.2	441.8	438.6	-3.2

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

S&T Resources in the Facilities Infrastructure and Operations program are used to manage activities and support services in many centralized administrative areas such as health and safety, environmental compliance, occupational health, medical monitoring, fitness/wellness and safety, and environmental management functions at EPA. Resources for this program also support a full range of ongoing facilities management services including: facilities maintenance and operations; security; space planning; shipping and receiving; property management; printing and reproduction; mail management; and transportation services.

FY 2006 Activities and Performance Highlights

These resources help to improve operating efficiency and encourage the use of new, advanced technologies and energy. EPA will attain the goals in Executive Order (EO) 13123[2], *Greening the Government through Efficient Energy Management* through several initiatives including comprehensive facility energy audits, sustainable building design in Agency construction and

[2] Information available at http://www.epa.gov/fedsite/eo13123.htm

alteration projects, energy savings performance contracts to achieve energy efficiencies, the use of off-grid energy equipment, energy load reduction strategies, green power purchases, and the use of Energy Star products and buildings.

EPA will provide transit subsidy to eligible applicants as directed by Executive Order (EO) 13150[3] "Federal Workforce Transportation."

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- No change in funding.

Statutory Authority

Federal Property and Administration Services Act; Public Building Act; annual Appropriations Act; Clean Water Act; Clean Air Act; D.C. Recycling Act of 1988; Executive Orders 10577 and 12598; Department of Justice United States Marshals Service, Vulnerability Assessment of Federal Facilities Report; Presidential Decision Directive 63 (Critical Infrastructure Protection)

[3] Additional information available at http://ceq.eh.doe.gov/nepa/regs/eos/eo13150.html

Goal: Clean Air and Global Climate Change
Objective(s): Healthier Outdoor Air

Total Request for Appropriation S&T: $10,015.9 (Dollars in Thousands)

Federal Support for Air Quality Management (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Environmental Program & Management	$86,964.0	$93,283.6	$110,891.2	$17,607.6
Science & Technology	***$10,497.3***	***$10,048.7***	***$10,015.9***	***($32.8)***
Total Budget Authority / Obligations	$97,461.3	$103,332.3	$120,907.1	$17,574.8
Total Workyears*	704.5	732.4	715.9	-16.5

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

This program supports States in their development of clean air plans by developing modeling and other tools. EPA works with States and local governments to ensure the technical integrity of the mobile source controls in the State implementation plans (SIPs). EPA will also assist areas in identifying the most cost-effective control options available.

This program was included in the Air Toxics PART review in 2006, which received an overall rating of Adequate; more information is included in the Special Analysis Section.

FY 2006 Activities and Performance Highlights

As part of implementing the 8-hour ozone and $PM_{2.5}$ standards, in FY 2006 EPA will continue to provide State and local governments with substantial assistance in implementing the conformity rule. The first conformity determinations for the 8-hour ozone standard will be due by June 15, 2005. The first conformity determinations for the $PM_{2.5}$ standard will be due in early 2006. In FY 2006, EPA will continue to ensure national consistency in how conformity determinations are conducted across the U.S. and in adequacy findings for motor vehicle emissions budgets in air quality plans, which are used in conformity determinations. In addition, EPA will work with State and local governments to ensure the technical integrity of the mobile source controls in the SIPs. EPA will also assist areas in identifying the most cost-effective control options available to reaching attainment and provide guidance, as needed, for areas that implement conformity.

EPA will work with States, Tribes, and local governments to create a comprehensive compliance program to ensure that vehicles and engines pollute less. In FY 2004, basic and/or enhanced

vehicle I/M testing was being performed in over 30 States with technical and programmatic guidance from EPA. In FY 2006, EPA will continue to assist States in incorporating On-board Diagnostics (OBD) inspections into their I/M programs. EPA will use advanced in-use measurement techniques and other sources of in-use data to monitor the performance of OBD systems on vehicle models to make sure that OBD is a reliable check on the emissions systems as part of vehicle inspection and maintenance (I/M) programs. EPA will also support States in evaluating I/M programs, as directed by the Clean Air Act and recommended by the National Academy of Sciences. With this information, EPA will work to establish an integrated information system that allows for assessment and action on those vehicles and engines that present the greatest environmental risk.

EPA will continue to assist State, Tribal, and local agencies implement and assess effectiveness of national clean air programs via a broad suite of analytical tools (http://www.epa.gov/ttn/).

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- No change in funding.

Statutory Authority

Clean Air Act; Motor Vehicle Information and Cost Saving Act; Alternative Motor Fuels Act of 1988; National Highway System Designation Act

Goal: Clean Air and Global Climate Change
Objective(s): Healthier Outdoor Air

Total Request for Appropriation S&T: $2,264.6 (Dollars in Thousands)

Federal Support for Air Toxics Program (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Environmental Program & Management	$25,983.9	$25,181.2	$25,431.4	$250.2
Science & Technology	***$2,168.1***	***$2,582.9***	***$2,264.6***	***($318.3)***
Total Budget Authority / Obligations	$28,152.0	$27,764.1	$27,696.0	($68.1)
Total Workyears*	151.5	147.7	144.8	-2.9

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

Federal support for the air toxics program includes a variety of tools to help characterize the level of risk to the public, measure the Agency's progress in reducing this risk, and develop and provide information and tools to assist State, local, and Tribal agencies as well as communities to reduce air toxics emissions and risk specific to their local areas. Reductions in emissions of mobile source air toxics, such as diesel PM, are achieved through innovative and voluntary approaches working with State, local, and Tribal governments as well as a variety of stakeholder groups. This program includes activities related to the Stationary Source Residual Risk Program, a program designed to reexamine the health risks associated with promulgated Maximum Achievable Control Technology (MACT) standards.

This program was included in the Air Toxics PART review in 2006, which received an overall rating of Adequate; more information is included in the Special Analysis Section.

FY 2006 Activities and Performance Highlights

EPA recently promulgated rules regulating new diesel engines; the first benefits of these rules will not be realized for at least five years and the full benefits will phase in over a longer period. In the meantime, older vehicles will continue to adversely affect the Nation's health. To date, voluntary diesel retrofit projects have resulted in over 150,000 commitments to retrofit diesel engines, equivalent to reductions of approximately 60,000 tons of harmful pollution.

In FY 2006, EPA will work with a broad range of stakeholders to develop incentives for different economic sectors (e.g. ports, construction, and freight) to reduce the emissions from

existing diesel engines. These sectors include construction, ports, freight and agriculture. EPA has also developed several emissions testing protocols that will provide potential purchasers of emission control technology a consistent, third party evaluation of emission control products. EPA has developed partnerships with State and local governments, industry, and private companies to create project teams to help fleet owners create the most cost-effective retrofit programs.

EPA will also continue to provide technical expertise and support to State, local, and Tribal air toxics programs in assessing and reducing mobile source air toxics. This support includes models and other assessment tools; guidance on the application of such tools for evaluating impacts of proposed transportation facilities and the benefits of voluntary mobile source control programs; and education and outreach materials

The Agency will work with partners to develop improved emission factors and inventories. This effort will include gathering improved activity databases and using geographic information systems (GIS) and satellite remote sensing, where possible, for key point, area, mobile, and fugitive source categories and global emission events.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- (- $318.3) Air toxics program resources are being shifted to the Federal Vehicle and Fuels Standards and Certification program to support modeling programs.

Statutory Authority

Clean Air Act

Goal: Clean Air and Global Climate Change
Objective(s): Healthier Outdoor Air

Total Request for Appropriation S&T: $66,567.5 (Dollars in Thousands)

Federal Vehicle and Fuels Standards and Certification (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Environmental Program & Management	$347.7	$0.0	$0.0	$0.0
Science & Technology	***$59,247.5***	***$64,466.5***	***$66,567.5***	***$2,101.0***
Total Budget Authority / Obligations	$59,595.2	$64,466.5	$66,567.5	$2,101.0
Total Workyears*	284.4	292.8	283.2	-9.6

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

While the most common mobile sources of air pollution are motor vehicles, other mobile sources such as airplanes, ships, construction equipment and lawn mowers also produce significant amounts of pollutants. EPA regulates the air pollution produced by all of these sources. The Agency provides mileage and emissions information for new cars, implements programs for the development of cleaner burning fuels and alternative energy sources, and educates consumers on the ways their actions can affect the environment.

Primary responsibilities include: developing national regulatory programs to reduce mobile source related air pollution from light-duty cars and trucks, heavy-duty trucks and buses, nonroad engines and vehicles and their fuels; evaluating emission control technology and providing State and local air quality regulators and transportation planners with access to critical information on transportation programs and incentive-based programs. Other activities include testing vehicles, engines and fuels and determining compliance with Federal emissions and fuel economy standards.

This program was included in the Mobile Sources PART review in 2006, which received an overall rating of Moderately Effective. This program was also included in the Air Toxics PART review in 2006, which received an overall rating of Adequate; more information is included in the Special Analysis Section.

FY 2006 Activities and Performance Highlights

In FY 2006 EPA will support implementation of the Tier II (ultra-low emission vehicle standards) program, the 2007 Heavy-Duty (HD) standards, and Non-road Diesel standards in order to ensure the successful delivery of cleaner vehicles, equipment and fuel. Standards for recreational vehicles and marine engines will take effect in 2006. The promulgation of a rulemaking for more stringent standards for locomotives and marine diesel engines is planned for 2006. The Agency is also committed to further reduce emissions from large commercial ships with a rule in 2007. A proposal is also planned in FY 2005 (with a final rule in FY 2006) to address emissions from small gasoline engines (under 50 horsepower), including marine gasoline engines and non-handheld engines (such as those used in lawnmowers), and handheld engines (such as those used in trimmers, chainsaws). A new rule proposal is planned for FY 2005 (with a final rule in FY 2006) concerning on-board diagnostic (OBD) standards for engines used in heavy-duty trucks. Recently promulgated 2007 HD truck standards will result in vehicles that are more complex and dependent on electronic controls and exhaust emission control technology. EPA will work with California, Japan, and the European Union to harmonize OBD requirements worldwide.

In-use compliance is an important element of EPA's regulatory programs. It is vital to ensuring that new engine standards are actually met under real-world conditions. As a result of a settlement agreement between EPA and the Engine Manufacturers Association, the Agency is initiating a consultative process for establishing an in-use compliance surveillance program for non-road diesel engines.

EPA intends to promulgate a new rule addressing mobile source air toxics in FY 2006. The new rule will be based on analyses of toxics emissions from non-road vehicles and equipment, estimation of exposure in microenvironments, consideration of the range of total public exposure to air toxics, and effectiveness and costs of control measures. Air toxic reductions of about 1.4 million tons are expected between 1996 and 2020 from existing programs that reduce ozone and particulate matter (PM), including: the reformulated gasoline (RFG) program, the national low emission vehicle (NLEV) program, the emission standards for passenger vehicles, trucks and buses, gasoline sulfur control requirements, and diesel fuel sulfur control requirements.

EPA's National Vehicle and Fuel Emissions Laboratory (NVFEL) will continue to conduct vehicle emission tests as part of the pre-production tests, certification audits, in-use assessments, and recall programs to support mobile source clean air programs. Tests are conducted on motor vehicles, heavy-duty engines, non-road engines, and fuels to: (1) certify that vehicles and engines meet Federal air emission and fuel economy standards; (2) ensure engines comply with in-use requirements; and (3) ensure fuels, fuel additives, and exhaust compounds meet Federal standards. In FY 2006, EPA will continue to conduct testing activities for fuel economy, LD vehicle and HD engine characterization, Tier II testing, reformulated gasoline, future fleets, OBD evaluations, certification audits, and recall programs.

EPA will test HD diesel engines in FY 2006 to support implementation of 2007 HD diesel requirements and non-road diesel engine rulemaking activities. In addition, NVFEL will conduct energy efficiency tests of electric vehicles, including hybrids, in collaboration with the Department of Energy, as well as non-road vehicle emission testing in support of non-road

regulatory development. EPA also will continue testing hydrogen fuel cell vehicles in support of demonstration programs, technical assessments, measurement method development, and compliance activities.

EPA will also continue to strengthen its new compliance-testing program to serve HD engine manufacturers certifying to the new 2004 emission standard requirements. HD engine manufacturers have requested that EPA establish a correlation program similar to the vehicle manufacturers' program. This will triple the size and operation of EPA's current correlation program. Non-road sources are also a major certification and compliance workload priority, as new standards are now taking effect.

The Agency has developed a portable emission measurement system that will allow the Agency to acquire in-use emission data in a cost-effective manner. The Agency plans to continue using portable systems to characterize in-use emissions from light-duty vehicles, heavy-duty highway vehicles, and non-road equipment. The Agency will also continue developing the new transportation emission model in FY 2006, which will greatly improve the Agency's ability to support the development of emission control programs, as well as provide support to the States in their determination of program needs to meet air quality standards.

EPA also will continue implementing Phase II of the RFG program, which will result in additional hydrocarbons (HC), NO_x, and toxic emission reductions in 17 States and the District of Columbia. RFG is designed to substantially reduce vehicle emissions of ozone-forming and toxic pollutants, which is estimated to reduce VOC emissions by 27 percent, toxic emissions by 22 percent, and NO_x emissions by 6.8 percent. This is the equivalent of taking 16 million vehicles off the road that burn conventional gasoline.

EPA will continue to address issues associated with the use of oxygenates (e.g., MTBE and ethanol) in RFG and will review the industry's retail station survey plan. Several States have banned the use of MTBE and have submitted or may submit requests for waivers from the oxygen requirement of RFG. In addition, 1-hour nonattainment areas that are bumped up to "severe" will be required to have RFG in place, and EPA will help implement the new programs as they become RFG-covered cities. The Agency will also continue to collect and review data submitted by manufacturers of motor fuels and fuel additives to assess whether fuels/additives different from conventional fuels (e.g. oxygenated fuels) cause any unexpected toxic effects.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- (+ $318.3) Resources have been reprogrammed from the Federal Support for Air Toxics program to support modeling programs.

- There are additional increases for payroll and cost of living for existing FTE.

Statutory Authority

Clean Air Act; Motor Vehicle Information and Cost Savings Act; Alternative Motor Fuels Act of 1988; National Highway System Designation Act; National Environmental Policy Act (NEPA)

Goal: Compliance and Environmental Stewardship
Objective(s): Enhance Science and Research

Total Request for Appropriation S&T: $13,737.0 (Dollars in Thousands)

Forensics Support (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Science & Technology	***$11,958.5***	***$12,721.5***	***$13,737.0***	***$1,015.5***
Hazardous Substance Superfund	$3,497.6	$4,189.3	$3,840.3	($349.0)
Total Budget Authority / Obligations	$15,456.1	$16,910.8	$17,577.3	$666.5
Total Workyears*	104.9	113.6	108.6	-5.0

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

The Forensics Support program provides specialized scientific and technical support for the nation's most complex civil and criminal enforcement cases, and provides technical expertise for non-routine Agency compliance efforts. EPA's National Enforcement Investigations Center (NEIC) is the only accredited environmental forensics center in the nation. NEIC's Accreditation Standard has been customized to cover the civil, criminal, and special program work conducted by the program.

NEIC collaborates with state, local and Tribal agencies, providing technical assistance, and on-site investigation and inspection activities in support of the Agency's civil program. In addition, the program coordinates with the Department of Justice and other Federal, state and local law enforcement organizations in support of criminal investigations. This program was included in the Civil Enforcement PART review for 2006 which received an overall rating of Adequate; more information is included in the Special Analysis Section.

FY 2006 Activities and Performance Highlights

Throughout FY 2006, efforts to stay at the forefront of environmental enforcement will include the refinement of successful multi-media inspection approaches; use of customized laboratory methods to solve unusual enforcement case problems; applied research and development for both laboratory and field applications, and further development of electronic data analysis methods used in investigations related to computers and data fraud. In response to civil and criminal case needs, the NEIC conducts applied research and development, to identify and deploy new capabilities, and to test and/or enhance existing methods and techniques involving environmental measurement and forensic situations. As part of this activity, NEIC evaluates the scientific basis

and/or technical enforceability of select EPA regulations. The program also provides technical support for national, regional, state, and Tribal initiatives and priorities, as well as the Agency's integrated Compliance Assurance program, using a unique process-based approach.

In FY 2006, the Forensics program will continue to function under more stringent International Standards of Operation for environmental data measurements to maintain its accreditation. NEIC will maintain a Counterterrorism Response Team for science and technical support in the area of industrial chemicals for our nations Homeland security. The program also will continue development of emerging technologies in field measurement techniques and laboratory analytical techniques, as well as identifying sources of pollution at abandoned waste sites.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- (-$575.5) This reduction reflects a transfer to the Civil Enforcement program in goal 5, objective 1. This shift implements a recommendation from EPA's November 2003, Management Review of the Office of Criminal Enforcement, Forensics, and Training (OCEFT) by moving the civil investigators from OCEFT to the Office of Regulatory Enforcement (ORE).

- (+$236.2) This increase reflects a transfer from Superfund to reflect the current workload at the National Enforcement Investigations Center.

- There are additional increases for payroll and cost-of-living for existing FTE.

Statutory Authority

CAA, as amended; CWA; EPCRA; FIFRA; FTTA; ODA; PPA; Pollution Prosecution Act; RLBPHRA; RCRA, as amended; SDWA; SBIDA; TSCA

Goal: Clean and Safe Water
Objective(s): Protect Human Health

Total Request for Appropriation S&T: $47,568.7 (Dollars in Thousands)

Homeland Security: Critical Infrastructure Protection (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Environmental Program & Management	$5,960.5	$6,840.8	$6,946.9	$106.1
Science & Technology	***$17,822.3***	***$3,515.6***	***$47,568.7***	***$44,053.1***
Hazardous Substance Superfund	$1,447.7	$852.6	$1,052.6	$200.0
Total Budget Authority / Obligations	$25,230.5	$11,209.0	$55,568.2	$44,359.2
Total Workyears*	44.3	47.0	59.0	12.0

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

This program provides resources to protect the nation's critical water infrastructure from terrorist threats. Reducing risk in the water sector requires a multi-step approach to: determine risk through vulnerability assessments, reduce risk through security enhancements, and prepare to respond effectively to incidents. Homeland Security Presidential Directives (HSPDs) 7 and 9 direct EPA to help support the water sector implement protective measures and develop comprehensive water surveillance and monitoring program respectively. The Public Health Security and Bioterrorism Response and Preparedness Act of 2002 (Bioterrorism Act) also provides that EPA support the water sector in such activities.

FY 2006 Activities and Performance Highlights

Two new complementary programs have been created to support critical water infrastructure protection. Resources of $44M are requested to launch these initiatives:

Water Sentinel

HSPD 9 directs EPA to develop a "robust, comprehensive, and fully coordinated surveillance and monitoring system" for drinking water and a water laboratory network that would support water surveillance and emergency response activities. Drinking water surveillance activities will be piloted in selected cities. The Water Sentinel pilots will provide direct benefits to the host city. In addition, selection of these cities will be tailored to offer opportunities to evaluate the operational experience of different types of water systems. Activities include:

- Establishing pilot early warning systems through intensive water monitoring and surveillance in key cities (cities selected based on population, type of water delivery system, and type of water treatment);
- Forming a water laboratory alliance to build the analytical capacity necessary to support the surveillance program. This entails leveraging existing laboratory infrastructure through select expansion of federal, state, and utility laboratory resources to enhance the capability and capacity for processing high priority threat agents in water;
- Ensuring the flow of water data into DHS's National Biosurveillance Integration System;
- Providing training and technical assistance to water systems on monitoring devices, sampling protocols, analytical methods, consequence management, and reporting results to DHS; and,
- Evaluating and improving early warning system and detection devices, analytical methods, and modeling programs for high priority contaminants as well as disseminating information and training drinking water utilities in these new surveillance technologies. Work will be carried out in collaboration with other federal agencies, such as the Centers for Disease Control and Prevention, Department of Defense, and the U.S. Geological Survey.

Water Alliance for Threat Reduction (WATR)

The Agency has responsibilities under HSPD 7 – which designates EPA as the Sector Specific Agency – to coordinate protection of the water sector from terrorist threats. Under the new WATR initiative, EPA will work to ensure that water utilities serving greater than 100,000 people have tools and information to prevent, detect, and respond to a terrorist or other intentional attack. The following preventive and preparedness activities will be implemented for the water sector in collaboration with DHS and states' homeland security and water officials:

- Develop and conduct exercises to prepare utilities, emergency responders, and decision-makers to evaluate and respond to physical, cyber-, and contamination threats and events;
- Building on recommendations made by the National Drinking Water Advisory Council in FY 2005, provide technical assistance and training to high risk water utilities and relevant state and local officials on implementing active and effective security programs and practices to protect against the sector's priority vulnerabilities. This will assist water utilitites as well as state and federal partners in setting funding priorities for security enhancements;
- Provide expert technical assistance in preparedness and response for national special security events and incidents; and,
- Disseminate (e.g., via the Water Information Sharing and Analysis Center) tools and provide technical assistance to ensure that water utilities and emergency responders react rapidly and effectively to intentional contamination. Tools include information on high priority contaminants, sampling and detection protocols and methods, and treatment options.

In FY 2006, EPA will develop the foundation, in coordination with key federal and water sector partners, for a robust critical infrastructure monitoring and surveillance program. In addition,

EPA will provide the critical tools, training, and exercises that drinking and wastewater utilities need to detect, prevent, and respond to a terrorist or other intentional attack.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- (+$44,000.0, +12 FTE) for Water Sentinel and Water Alliance for Threat Reduction, to carry out the responsibilities assigned to EPA as the lead Federal agency for the water sector under HSPDs 7, 9, and 10. These directives were issued in FY 2004.

- There are increases for payroll and cost-of-living for existing FTE.

Statutory Authority

Safe Drinking Water Act; Clean Water Act; Public Health Security and Bioterrorism Emergency and Response Act of 2002; Emergency Planning and Community Right to Know Act

Goal: Clean Air and Global Climate Change
Objective(s): Radiation

Goal: Healthy Communities and Ecosystems
Objective(s): Chemical, Organism, and Pesticide Risks; Enhance Science and Research

Total Request for Appropriation S&T: $44,116.2 (Dollars in Thousands)

Homeland Security: Preparedness, Response, and Recovery (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Environmental Program & Management	$766.7	$1,839.8	$3,348.2	$1,508.4
Science & Technology	***$14,763.9***	***$25,396.0***	***$44,116.2***	***$18,720.2***
Hazardous Substance Superfund	$63,979.9	$29,163.2	$48,964.9	$19,801.7
Total Budget Authority / Obligations	$79,510.5	$56,399.0	$96,429.3	$40,030.3
Total Workyears*	141.2	97.6	165.7	68.1

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

Through research, development and technical support activities, this program continues to increase the Agency's preparedness, and its response and recovery capabilities for homeland security incidents involving chemical, biological or radiological threats,. The Agency continues to increase the state of its knowledge of potential threats, as well as its response capabilities, by assembling and evaluating private sector tools and capabilities so that preferred response approaches can be identified and evaluated for future use by first responders, decision makers, and the public. EPA also continues to work with Federal institutions and other organizations through collaborative research efforts to strengthen decontamination capabilities.

FY 2006 Activities and Performance Highlights

Decontamination Research: In FY 2006 EPA requests new resources for expansion of ongoing decontamination research to include testing of new decontamination methods and systems for buildings and outdoor areas, field validation studies of anthrax decontamination methods, evaluation of risk characterization information for use in determining cleanup goal estimates, and evaluation of existing technologies to manage contaminated crops and animal carcasses. The following is a more detailed description of the Agency's decontamination research efforts in FY 2006:

The National Homeland Security Research Center (NHSRC): oversees Agency research in preparedness, risk assessment, detection, containment, decontamination, and disposal associated with chemical, biological, and radiological attacks. Originally intended to sunset in 2005, EPA will continue the core work of the Center to support new responsibilities through Homeland Security Presidential Directives (HSPDs) and Department of Homeland Security requirements for EPA expertise in a number of key areas. Activities in FY 2006 will include the following:

- Water infrastructure protection research will focus on developing, testing, demonstrating, communicating, and implementing enhanced methods for detection, treatment, and containment of biological and chemical warfare agents, certain radiological contaminants, and bulk industrial chemicals intentionally introduced into drinking water and wastewater systems. This program has produced a number of important resources for use by water utilities and public officials, including the verification of two point-of-use drinking water treatment technologies. For more information about these verification reports, visit www.epa.gov/etv/verifications/vcenter2-16.html.

- Threat and consequence assessment research will focus on conducting risk assessments of decontamination byproducts; refining toxicity databases; developing fate, transport, dispersion, and exposure parameters; and developing computer-based tools to aid decision makers in assessing the risks associated with biological and chemical attacks. Risk assessment work will also focus on providing scientific data and methods to support determination/revision of cleanup guidance goals as new toxicity and exposure information become available and as new potential agents are identified.

- EPA will expand its Standardized Analytical Methods (SAM) document for Homeland Security to include development, validation and testing of non-standard methods and additional methods for chemicals in new environmental matrices. EPA will establish an applied measurement science research program to administer the activities of a national laboratory network to manage method development, validation, and application for contaminants resulting from terrorist attacks.

- EPA will conduct critical research to improve existing decontamination systems and to develop and test new decontamination methods and systems for buildings, large structures and outdoor areas. In addition, field studies to validate decontamination methods specific to anthrax will be conducted.

- Research will be conducted to begin evaluating toxicity, infectivity, mechanisms of action, and other risk characterization information of biological contaminants in order to develop dose/response relationships and cleanup goal estimates. Additionally, work will begin to evaluate existing technologies that can be applied to *in situ* management of crops and animal carcasses contaminated with threat agents.

National Environmental Radiation Monitoring System (NMS): Under the National Response Plan for Homeland Security, EPA has specific radiation response and recovery responsibilities including maintenance of the National Environmental Radiation Monitoring System (NMS) and readiness for radiological emergency responses.

- In FY 2006 the Agency anticipates purchasing 40 to 50 fixed monitors for the NMS. When fully implemented in 2009, the NMS will have over 150 fixed monitoring stations and 40 site-deployable monitors. The monitoring system will be supported by an electronic database and telemetry system that gathers data from multiple sources to provide quality assurance and transmit results in a secure mode. As the NMS is upgraded and enhanced, response time and data dissemination provides near real-time data, enabling officials to make rapid decisions during an incident and improving overall preparedness.

- EPA also would equip and deploy two radiation response teams capable of supporting the Agency's decontamination/disposal decision-making efforts in the event of a radiological incident. Staffed by existing personnel expert in radiological decontamination, these teams would support the work of EPA's existing emergency response teams and provide specialized assistance in the event of a radiological incident.

Biodefense: In FY 2006, EPA will focus primarily on testing antimicrobial products against selected biological agents or emerging pathogens to identify products that are effective. In conjunction with that effort, EPA will also:

- review and make registration decisions on applications from chemical manufacturers for products intended to inactivate biological agents or emerging pathogens;
- research improved sporicidal efficacy test methods, providing technical and regulatory guidance to registrants on efficacy data and labeling requirements for antimicrobials;
- in coordination with other federal partners and industry and the public, address issues surrounding human pathogens and decontamination; and
- prepare on the shelf products to accelerate issuance of FIFRA exemptions related to homeland security as needed to permit the sale, distribution and use of unregistered antimicrobials or unregistered uses of registered products intended to inactivate specific pathogens not currently listed on product labels.

FY 2006 Change from FY 2005 President's Budget (in Thousands of Dollars)

- (+$11,800.0, +5.0 FTE) This increase represents new resources for Homeland Security decontamination research. Work will include testing new decontamination methods and systems for buildings and outdoor areas, field validation studies of anthrax decontamination methods, the evaluation of risk characterization information for use in determining cleanup goal estimates, and evaluation of existing technologies to manage contaminated crops and animal carcasses.

- (+$4,000.0) This increase provides funds for EPA's building decontamination research program.

- (+ 23.4 FTE) This represents a shift of workyears from Homeland Security and non-Homeland Security research in the Superfund appropriation into S&T to support ongoing Homeland Security research.

- (+$1,200.0) Additional resources will be used to test and develop antimicrobial chemical decontamination methods on pathogens identified by CDC.

- (+$600.0) Increase requested to acquire updated radiological monitoring equipment and constitute, equip and deploy two radiation response teams as needed.

- (+$600.0) This increase will help maintain the Agency's lab response capability to ensure a minimal level of capacity for radiological terrorism incidents through development of radiochemistry methods, refinement of analytical protocols and training.

- There are increases for payroll and cost-of-living for existing FTE.

Statutory Authority

Atomic Energy Act of 1954, as amended, 42 U.S.C 2011 et seq. (1970), and Reorganization Plan #3 of 1970; Clean Air Act Amendments of 1990 (CAA); Comprehensive Environmental Response Compensation and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA); Executive Order 12241 of September 1980, National Contingency Plan, 3 CFR, 1980; Executive Order 12656 of November 1988, Assignment of Emergency Preparedness Responsibilities, 3 CFR, 1988; Public Health Service Act, as amended, 42 U.S.C 201 et seq.; Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, 42 U.S.C 5121 et seq.; Safe Drinking Water Act; Title X IV of the National Defense Authorization Act of 1997, PL 104-201 (Nunn-Lugar II) National Response Plan; Public Health Security and Bioterrorism Emergency and Response Act of 2002; Comprehensive Environmental Response, Compensation, and Liability Act; Superfund Amendments and Reauthorization Act; Toxic Substances Control Act; Oil Pollution Act; Pollution Prevention Act; Resource Conversation and Recovery Act; Emergency Planning and Right to Know Act; Safe Drinking Water Act; Clean Water Act; Clean Air Act; Federal Insecticide, Fungicide and Rodenticide Act; Federal Food, Drug and Cosmetic Act; Food Quality Protection Act; Ocean Dumping Act; Public Health Service Act, as amended; 42 U.S.C 201 et seq.; Reorganization Plan No. 3 (1970); Executive Order 10831 (1970); Public Law 86-373; Pesticides Registration Improvement Act (PRIA)

Goal: Provide Agency-wide support for multiple goals to achieve their objectives. This support involves Agency-wide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

Total Request for Appropriation S&T: $2,100.0 (Dollars in Thousands)

Homeland Security: Protection of EPA Personnel and Infrastructure (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Environmental Program & Management	$5,431.3	$6,344.3	$6,403.0	$58.7
Science & Technology	***$1,663.1***	***$2,100.0***	***$2,100.0***	***$0.0***
Building and Facilities	$12,488.7	$11,500.0	$11,500.0	$0.0
Hazardous Substance Superfund	$677.8	$600.0	$600.0	$0.0
Total Budget Authority / Obligations	$20,260.9	$20,544.3	$20,603.0	$58.7
Total Workyears*	3.6	3.0	3.0	0.0

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

This program involves activities to ensure that EPA's physical structures and assets are secure and that the Agency is prepared to conduct its essential functions during an emergency or threat situation. This involves safeguarding EPA's staff, ensuring the continuity of operations, and protecting the capability of EPA's vital infrastructure assets, in particular the environmental laboratory facilities.

FY 2006 Activities and Performance Highlights

The Agency will continue to update its physical security vulnerability assessments and continue the mitigation of medium vulnerabilities at our most sensitive facilities. The Agency will also conduct rehearsal of (1) Continuity Of Operations (COOP) site activation, (2) movement of COOP site and (3) the mission essential functions from its remote alternate site, including interagency operations. In the event of an emergency which involves chemical or biological agents, EPA laboratories must remain in operation to provide expertise in identification and mitigation options.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- No Change in funding.

Statutory Authority

Public Health Security and Bioterrorism Emergency and Response Act of 2002

Goal: Healthy Communities and Ecosystems
Objective(s): Enhance Science and Research

Total Request for Appropriation S&T: $36,240.1 (Dollars in Thousands)

Human Health Risk Assessment (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Science & Technology	***$28,084.2***	***$32,880.4***	***$36,240.1***	***$3,359.7***
Hazardous Substance Superfund	$3,952.6	$3,951.8	$4,021.5	$69.7
Total Budget Authority / Obligations	$32,036.8	$36,832.2	$40,261.6	$3,429.4
Total Workyears*	165.0	159.8	183.7	23.9

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

Human health risk assessment is a process where information is analyzed to determine if an environmental hazard might cause harm to exposed persons (National Research Council, 1983). Risk assessment is widely used by EPA programs, regions and other parties to determine levels of environmental contaminants that do not pose a human health hazard, to develop regulatory standards, and to manage environmental cleanups.

Three complementary areas comprise the Human Health Risk Assessment Program Project:

- Integrated Risk Information System (IRIS) and other health risk assessments: Risk assessments are prepared on environmental pollutants of major relevance to EPA's legislative mandates and are publicly available principally on the Integrated Risk Information System (IRIS) internet database. IRIS is widely used throughout EPA and the risk management community as the premier source of hazard and dose-response information for environmental health risk assessment.

- Risk assessment research, methods, and guidance: The Agency provides human health risk assessment research, methods, guidelines, training materials, and technical and regulatory support to its program and regional offices. The HHRA program develops improved methods and guidance to advance risk assessment science and incorporates the latest developments into Agency-wide human health risk assessments.

- Air Quality Criteria Documents (AQCDs): Congress requires that EPA regularly summarize the state-of-the-science on the criteria air pollutants – ozone, particulate matter, sulfur and

nitrous oxides, carbon monoxide, and lead – to assist EPA's Air and Radiation programs in determining the National Ambient Air Quality Standards (NAAQS). These regular summaries, called Air Quality Criteria Documents (AQCDs), are major risk assessments that undergo detailed external peer reviewed by the Clean Air Science Advisory Committee (CASAC).

FY 2006 Activities and Performance Highlights

In FY 2006, EPA plans to produce the following human health assessment documents under IRIS, related risk assessments, and the criteria air pollutants:

- 32 final and external review draft dose-response assessments of high priority chemicals in support of Program Office, Regional, state and Tribal risk assessment needs;
- 3 assessments of microbial contaminant risks in support of candidate chemical list (CCL) regulatory determinations by the Office of Water; and,
- 1 final AQCD (ozone) and 1 external review draft AQCD (lead) to support NAAQS decision-making.

Risk assessment methods development in 2006 will address issues related to:

- Improved exposure assessment methods, including: an updated Exposure Factors Handbook for Children, the primary source of collated information on human exposure parameters used in risk assessments, including hazardous waste sites;
- Refinement of dose-response models to link dose to potential adverse effects for microbial risks, along with upgrading the publicly available and widely used benchmark dose software to model dose-response curves for toxicants;
- Replacement of uncertainty factors with data-derived distributions to better estimate actual risks of adverse health outcomes; and,
- Applied studies to demonstrate the potential for quantifying health benefits and risks by integrating methods from economics, toxicology, statistics, and epidemiology.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- (+$1,350.0, +10.0 FTE) This redirection will support the expansion of the IRIS program, which will allow EPA to increase the rate of production of IRIS assessments. Specifically, the additional workyears will develop and review assessments of high priority environmental substances for inclusion in IRIS; coordinate reviews of IRIS documents; and work with other Federal agencies that produce chemical assessments, such as the Agency for Toxic Substances and Disease Registry, to ensure consistent assessments and efficient use of resources.

- (+$2,052.0, +15.2 FTE) Reallocation of program support workyears to more accurately reflect support for agency priorities.

- (-$502.0) This represents a reduction in funding for human health risk assessment in the areas of aggregate risk research (human exposure, dose modeling) and drinking water research.

- There are additional increases for payroll and cost of living for existing FTE.

Statutory Authority

CAA; SDWA; CWA; TSCA; FIFRA; CERCLA; SARA; FQPA

Goal: Clean Air and Global Climate Change
Objective(s): Healthier Indoor Air

Total Request for Appropriation S&T: $441.6 (Dollars in Thousands)

Indoor Air: Radon Program (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Environmental Program & Management	$5,125.3	$5,667.1	$5,918.3	$251.2
Science & Technology	***$382.3***	***$398.5***	***$441.6***	***$43.1***
Total Budget Authority / Obligations	$5,507.6	$6,065.6	$6,359.9	$294.3
Total Workyears*	39.8	43.1	43.3	0.2

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

This program project supports work at the Radiation and Indoor Environments National Laboratory (R&IE) in Las Vegas, Nevada that supports the radon program by evaluating new radon instruments and devices, collecting samples and performing analyses for radon, and distributing radon kits and analyzing follow-up measurements for community-based environmental justice partners with a focus on Tribes. R&IE operates the only Federal laboratory that provides: 1) technical support to private, State, and local radon labs; 2) a mechanism for private radon measurement firms to obtain approval for new radon measurement devices; 3) consumer protection by assuring accurate and precise radon measurements; and 4) a means for the U.S. to establish traceability to a nationally recognized radon standard.

FY 2006 Activities and Performance Highlights

The laboratory will continue to provide key radon analytical support to the national program, ongoing measurement expertise as the only Federal lab for radon devices, and radon support and technical tools for community-based environmental justice partners.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- There are additional increases for payroll and cost of living for existing FTE.

Statutory Authority

Clean Air Act Amendments of 1990 (CAA); Indoor Radon Abatement Act (IRAA), Section 306 Radon Gas and Indoor Air Quality Research Act; Title IV of the Superfund Amendments and Re-authorization Act (SARA) of 1986; Toxic Substances Control Act (TSCA), section 6, Titles II, and Title III (15 U.S.C. 2605 and 2641-2671), and Section 10 Clean Air Act Amendments

Goal: Provide Agency-wide support for multiple goals to achieve their objectives. This support involves Agency-wide activities primarily provided by EPA's six (6) support offices - the Office of Administration and Resources Management (OARM), Office of the Chief Financial Officer (OCFO), Office of Environmental Information (OEI), Office of General Counsel (OGC), Office of the Administrator (OA), and the Office of Inspector General (OIG).

Total Request for Appropriation S&T: $4,250.9 (Dollars in Thousands)

IT / Data Management (S&T)
(Dollars in Thousands)

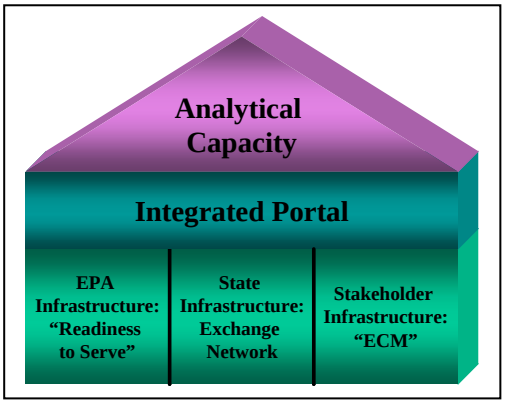
	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Environmental Program & Management	$101,091.2	$108,359.4	$105,999.0	($2,360.4)
Science & Technology	***$4,611.0***	***$4,821.4***	***$4,250.9***	***($570.5)***
Leaking Underground Storage Tanks	$109.3	$177.6	$177.6	$0.0
Oil Spill Response	$36.7	$32.8	$32.8	$0.0
Hazardous Substance Superfund	$16,886.3	$16,628.4	$16,113.2	($515.2)
Total Budget Authority / Obligations	$122,734.5	$130,019.6	$126,573.5	($3,446.1)
Total Workyears*	577.0	467.0	457.8	-9.2

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

This program manages and coordinates the Agency's Enterprise Architecture and develops analytical tools (e.g., Environmental Indicators) to ensure sound environmental decision-making. The program: implements the Agency's e-Government responsibilities; designs, develops and manages the Agency's Internet and Intranet resources including the Integrated Portal; supports the development, collection, management, and analysis of environmental data (to include both point source and ambient data) to manage statutory programs and to support the Agency in strategic planning at the national, program, and regional levels; provides a secure, reliable, and capable information infrastructure based on a sound enterprise architecture which includes data standardization, integration, and public access; manages the Agency's Quality System ensuring EPA's processes and data are of quality and adhere to Federal guidelines, and, supports Regional information technology infrastructure, administrative and environmental programs, and telecommunications. These functions are integral to the implementation of Agency information technology programs and systems like the Exchange Network, the Central Data Exchange (CDX) and Permit Compliance System (PCS). Agency Offices rely on the IT/Data Management program and its capabilities to develop and implement tools for ready access to accurate and timely data. Recent partnerships include portals projects with the Offices of Research and Development and Air and Radiation to access scientific and program data.

FY 2006 Activities and Performance Highlights



EPA's Information Technology community's FY 2006 activities focus on the Agency's Technology Initiative and fulfilling the Agency's e-Government (e-Gov) commitments. The Agency's IT/Data Management program forms the core of this effort with its focus on building and implementing the Agency's Integrated Portal and Enterprise Content Management System (ECMS), developing of Environmental Indicators, and continuing to deploy enterprise-wide IT infrastructure solutions.

The Agency's Technology Initiative builds on efforts started in FY 2004 and FY 2005 to enhance environmental analytical capacity for EPA, its partners and stakeholders. The Initiative is designed with the understanding that the majority of environmental data are collected by states and Tribes, not directly by EPA and that ready access to real time quality environmental data and analytical tools are essential to making sound environmental decisions. Understanding these factors focused EPA's FY 2006 Technology Initiative on five related and supporting activities:

- ✓ Building the Agency's analytical capacity to facilitate sound environmental decision-making and address critical data gaps;
- ✓ Developing a central integrated portal to manage the flow of information to and from the Agency;
- ✓ Providing more effective, secure, and integrated information exchange through the environmental exchange network with our state partners;
- ✓ Streamlining, securing, and technically advancing the infrastructure through enterprise-wide solutions across EPA; and,
- ✓ Implementing a central content management system that provides ready access to documents and data.

EPA's Environmental Information Exchange Network Program (Exchange Network, www.epa.gov/cdx), the Electronic Content Management System (ECMS) and EPA's 'Readiness to Serve' enterprise-wide IT infrastructure solutions provide the foundation for states, Tribes, the public, regulated community and EPA for improved information and data access and sharing opportunities. The Integrated Portal manages a variety of environmental information allowing increased data availability, better data quality and accuracy, security of sensitive data, and prevents data redundancy. Finally, with proven infrastructures and increased data access, EPA, its partners and stakeholders can conduct better data analyses to answer environmental questions.

Integral to the successful achievement of the Technology Initiative and the broader IT/Data Management efforts is the quality of the data and services. In FY 2006 EPA's IT/Data Management program will continue to provide methods to manage the quality of its environmental data collection, generation, and use. The primary goal of the EPA Quality System is to ensure that its environmental data are of sufficient quantity and quality to support the data's intended use. As part of the Agency's Quality System, policies and procedures have been

developed to assist individual data collectors, data users, and decision makers in defining their needs for data and assessing data against these needs, and to provide EPA management with methods for overseeing the quality-related activities of their programs. Like the larger IT/Data Management efforts, the Quality System is closely coordinated with the Exchange Network and Information Security programs. This relationship ensures quality data are available and accessible to promote sound environmental decision-making.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- (-$570.5) The reduction in resources is a result of reduced payroll and efficiencies gained through a restructuring of EPA's UNIX services.

Statutory Authority

Federal Advisory Committee Act; Government Information Security Reform Action; CERCLA; Clean Air Act and amendments; Clean Water Act and amendments; Environmental Research, Development, and Demonstration Act; Toxic Substance Control Act; Federal Insecticide, Fungicide, and Rodenticide Act; Food Quality Protection Act; Safe Drinking Water Act and amendments; Federal Food, Drug and Cosmetic Act; Emergency Planning and Community Right-to-Know; Resource Conservation and Recovery Act; Superfund Amendments and Re-authorization Act; Government Performance and Results Act; Government Management Reform Act; Clinger-Cohen Act; Paperwork Reduction Act; Freedom of Information Act; Computer Security Act; Privacy Act; Electronic Freedom of Information Act

Goal: Healthy Communities and Ecosystems
Objective(s): Chemical, Organism, and Pesticide Risks

Total Request for Appropriation S&T: $2,490.0 (Dollars in Thousands)

Pesticides: Registration of New Pesticides (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Environmental Program & Management	$40,936.3	$42,907.0	$41,471.7	($1,435.3)
Science & Technology	***$2,173.1***	***$2,403.2***	***$2,490.0***	***$86.8***
Total Budget Authority / Obligations	$43,109.4	$45,310.2	$43,961.7	($1,348.5)
Total Workyears*	353.6	330.7	327.8	-2.9

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

The Agency has three laboratories that validate environmental and analytical chemistry methods to ensure that the Food and Drug Administration (FDA), United States Department of Agriculture (USDA) and States have reliable methods to measure and monitor pesticide residues in food and in the environment. The laboratories provide Regional enforcement programs with highly specialized pesticide chemistry services to support enforcement cases including the more difficult to analyze older pesticides. State pesticide laboratories receive technical and quality assurance support through check sample exercises, workshops and training in pesticide analytical chemistry. Additionally, the laboratories support the Office of General Counsel for hearings and the Office of Research and Development on special projects. Other initiatives that support the Registration Program include the screening for endocrine disrupting potential of pesticides and pursuing methods for determining chemical toxicity that reduce or eliminate animal testing. Analytical methods are evaluated for: 1) detecting pesticide residues in the environment to ensure that they are suitable for monitoring residues in soil and water; 2) enforcement for product chemistry to ensure that the labels are accurate; and 3) detecting residues in food and feed to ensure that they are suitable for monitoring and to enforce legal residue limits.

Resources are used to operate the National Pesticide Standard Repository for pesticide analytical reference standards and to distribute the standards to Federal and state enforcement laboratories. EPA laboratories, in cooperation with industry and state and regional laboratories, develop multi-residue analytical methods to allow enforcement agencies to test for several different chemicals using one test. The microbiology laboratory conducts product performance testing of antimicrobials, evaluates new efficacy test methods for hospital disinfectants, provides support on test methodologies and procedures, investigates new technologies and screening techniques

for evaluating the product performance of antimicrobials, and provides technical support/training on testing methods and procedures.

FY 2006 Activities and Performance Highlights

EPA's Laboratories will continue to support pesticide registration and reregistration activities. They will provide Quality Assurance technical support and training to state FIFRA laboratories, EPA regions, and other Federal agencies. The laboratories will continue to evaluate registered products that are most crucial to infection control (sterilants, tuberculocides, and hospital-level disinfectants). In conjunction with certain state laboratories, in FY 2006 they will continue to perform efficacy tests using the same parameters (contact time, dilution of product) as noted on the product label. The laboratories will continue to provide technical support and chemical analyses of pesticides and related chemicals, develop new multi-residue analytical methods, and operate the EPA National Pesticide Standard Repository.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- There are increases for payroll and cost-of living for existing FTE.

Statutory Authority

Pesticides Registration Improvement Act (PRIA); Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); Federal Food, Drug and Cosmetic Act (FFDCA); Food Quality Protection Act (FQPA)

Goal: Healthy Communities and Ecosystems
Objective(s): Chemical, Organism, and Pesticide Risks

Total Request for Appropriation S&T: $2,506.1 (Dollars in Thousands)

Pesticides: Review / Reregistration of Existing Pesticides (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Environmental Program & Management	$54,163.5	$58,053.9	$57,991.2	($62.7)
Science & Technology	***$2,303.5***	***$2,417.1***	***$2,506.1***	***$89.0***
Total Budget Authority / Obligations	$56,467.0	$60,471.0	$60,497.3	$26.3
Total Workyears*	466.2	466.6	462.7	-3.9

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

EPA's Laboratories include an analytical laboratory and a microbiology laboratory at the Environmental Science Center (ESC) at Fort Meade, MD and an environmental chemistry laboratory (ECL) at Stennis Space Center, Bay St. Louis, MS. These laboratories support Reregistration activities by validating environmental and analytical chemistry methods to ensure that the Food and Drug Administration (FDA), the United States Department of Agriculture (USDA), Regional offices and States have reliable methods to measure and monitor pesticide residues in food and in the environment. These laboratories, in cooperation with industry and state and regional laboratories, develop multi-residue analytical methods to allow enforcement agencies to test for several different chemicals using one test. The microbiology laboratory conducts product performance testing of antimicrobials related to public health including new efficacy test methods for hospital disinfectants. The microbiology laboratory provides technical support and training on testing methods and procedures. As EPA updates research results, the cumulative risk policy is updated to ensure risk assessments maintain pace with advancing science and that improvements are incorporated into the Registration Review Program.

The laboratories provide Regional enforcement programs with highly specialized pesticide chemistry services to support enforcement cases including the more difficult to analyze older pesticides. Laboratory services provide the Office of General Counsel information for hearings and to the office of Research and Development for dioxin assessments and screenings. Additional support provides screening for endocrine disrupting potential of pesticides, biotechnology, pursuing methods for determining chemical toxicity that reduce or eliminate animal testing, and homeland security activities.

The ECL supports the following functions:

- Provides the state pesticide laboratories with technical and quality assurance support through check sample exercises and workshops as well as training in pesticide analytical chemistry;
- Evaluates analytical methods for detecting pesticide residues in the environment to ensure that they are suitable for monitoring residues in soil and water;
- Evaluates enforcement analytical methods for product chemistry to ensure that the labels are accurate;
- Evaluate analytical methods for detecting residues in food and feed to ensure that they are suitable for monitoring, and to enforce legal residue limits; and,
- Operates the National Pesticide Standard Repository for pesticide analytical reference standards and distributes the standards to Federal and state enforcement laboratories.

FY 2006 Activities and Performance Highlights

The Agency will continue to support the Reregistration program activities, including conducting benefits assessments, post Registration Eligibility Decisions (RED) assessments, conducting analysis of use and usage data, conducting analysis of surface water samples for risk assessments, operating the National Pesticide Standard Repository, and conducting chemistry and efficacy testing for antimicrobials. Additionally, the laboratories will continue to support Homeland Security activities such as anthrax surrogate studies and ensure ability to provide surge capacity to respond to incidents. The Homeland Security activities associated with this program are discussed in more detail in the Homeland Security Program Project.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- There are increases for payroll and cost-of-living for existing FTE.

Statutory Authority

Pesticides Registration Improvement Act (PRIA); Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); Federal Food, Drug and Cosmetic Act (FFDCA); Food Quality Protection Act (FQPA)

Goal: Clean Air and Global Climate Change
Objective(s): Radiation

Total Request for Appropriation S&T: $2,120.5 (Dollars in Thousands)

Radiation: Protection (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Environmental Program & Management	$11,608.6	$11,811.7	$11,765.1	($46.6)
Science & Technology	***$4,185.6***	***$2,847.0***	***$2,120.5***	***($726.5)***
Hazardous Substance Superfund	$2,223.9	$2,323.2	$2,387.1	$63.9
Total Budget Authority / Obligations	$18,018.1	$16,981.9	$16,272.7	($709.2)
Total Workyears*	119.5	114.4	103.5	-10.9

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

This program ensures an ongoing radiation protection capability at the National Air and Radiation Environmental Laboratory (NAREL) located in Montgomery, AL and the Radiation and Indoor Environments National Laboratory (R&IE) located in Las Vegas, NV. These laboratories provide radioanalytical and mixed waste testing and analysis of environmental samples to support site assessment, clean-up, and response activities

FY 2006 Activities and Performance Highlights

In FY 2006, the Agency will provide technical support for conducting site specific radiological characterizations and clean ups by working with the public, industry, states, Tribes and other governments. EPA, in partnership with other Federal agencies, will promote the management of radiation risks in a consistent and safe manner at Department of Energy (DOE), Department of Defense (DOD), state, local and other Federal sites by: assisting with site charcterizations and providing analytical support for site assessment activities; remediation technologies, and measurement and information systems; and, providing training and direct site assistance including laboratory, field, and risk assessment support at sites with actual or suspected radioactive contamination.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- (-$950.0, -6.3 FTE) This decrease reflects a redirection of resources and associated payroll from the *Radiation: Protection* program to the *Radiation: Response Preparedness* program to support emergency response efforts.

Statutory Authority

Atomic Energy Act of 1954, as amended, 42 U.S.C 2011 et seq. (1970), and Reorganization Plan #3 of 1970; Clean Air Act Amendments of 1990 (CAA); Comprehensive Environmental Response Compensation and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA); Energy Policy Act of 1992, P.L. 102-486; Executive Order 12241 of September 1980, National Contingency Plan, 3 CFR, 1980; Nuclear Waste Policy Act of 1982; Public Health Service Act, as amended, 42 U.S.C 201 et seq.; Safe Drinking Water Act; Uranium Mill Tailings Radiation Control Act of 1978; Waste Isolation Pilot Plant (WIPP) Land Withdrawal Act

Goal: Clean Air and Global Climate Change
Objective(s): Radiation

Total Request for Appropriation S&T: $3,576.3 (Dollars in Thousands)

Radiation: Response Preparedness (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Environmental Program & Management	$3,308.1	$2,610.9	$2,636.0	$25.1
Science & Technology	***$2,109.1***	***$2,239.0***	***$3,576.3***	***$1,337.3***
Total Budget Authority / Obligations	$5,417.2	$4,849.9	$6,212.3	$1,362.4
Total Workyears*	25.2	36.5	42.3	5.8

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

The National Air and Radiation Environmental Laboratory (NAREL) in Montgomery, AL and the Radiation and Indoor Environments National Laboratory (R&IE) located in Las Vegas, NV provides field sampling and analyses, laboratory analyses, and direct scientific support to respond to radiological and nuclear incidents. Additional functions of the labs include measurement and monitoring of radioactive materials in the environment and providing assessments of radioactive contamination at environmental levels. This program comprises direct scientific field and laboratory activities to support preparedness, planning, training and procedures development. In addition, selected staffs are members of EPA's Radiological Emergency Response Team (RERT) and are trained to provide direct expert assistance in the field.

FY 2006 Activities and Performance Highlights

EPA's RERT, a component of the Agency's emergency response structure, will maintain its preparedness in the laboratories for radiological incidents including those for which EPA is the Coordinating Agency under the National Response Plan. The laboratory RERT members will conduct training and exercises to enhance their ability to fulfill EPA responsibilities in the field, using mobile analytical systems and fixed labs in order to provided the necessary mix of rapid and accurate radionuclide analyses in environmental matrices.[4]

[4] Additional information can be accessed at: http://www.epa.gov/radiation/rert/rert.htm last accessed 1/3/2005

The labs field teams that provide scientific data, analyses and updated analytical techniques for radiation emergency response programs across the Agency; maintain readiness for radiological emergency responses, participate in mock emergency response situations; provide on-site scientific support to state radiation, solid waste, and health programs that regulate radiation remediation; participate in the Protective Action Guidance(PAG) workshops; and respond as required to radiological incidents.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- (+6.3 FTE, +$950.0) An increase in Radiation: Response Preparedness represents a redirection of resources from the Radiation: Protection program. This redirection will allow the Agency to support increased emergency preparedness efforts at the state and local levels. This includes participation in training efforts.

- There are increases and adjustments for payroll and cost of living for existing FTE.

Statutory Authority

Atomic Energy Act of 1954, as amended, 42 U.S.C 2011 et seq. (1970), and Reorganization Plan #3 of 1970; Clean Air Act, as amended (CAA); Comprehensive Environmental Response Compensation and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA); Executive Order 12241 of September 1980, National Contingency Plan, 3 CFR, 1980; Executive Order 12656 of November 1988, Assignment of Emergency Preparedness Responsibilities, 3 CFR, 1988; Public Health Service Act, as amended, 42 U.S.C 201 et seq.; Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, 42 U.S.C 5121 et seq.; Safe Drinking Water Act; and Title XIV of the National Defense Authorization Act of 1997, PL 104-201 (Nunn-Lugar II)

Goal: Clean Air and Global Climate Change
Objective(s): Healthier Indoor Air

Total Request for Appropriation S&T: $831.8 (Dollars in Thousands)

Reduce Risks from Indoor Air (S&T)
(Dollars in Thousands)

	FY 2004 Obligations**	FY 2005 Pres. Bud.**	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Environmental Program & Management	$22,200.8	$25,244.5	$23,496.4	($1,748.1)
Science & Technology	***$755.4***	***$906.1***	***$831.8***	***($74.3)***
Total Budget Authority / Obligations	$22,956.2	$26,150.6	$24,328.2	($1,822.4)
Total Workyears*	75.3	80.6	69.2	-11.4

* Agency Authorized FTE levels are being aligned with actual utilization. See overview section.
** Resources under this Program/Project were formerly captured under the Indoor Air: Asthma, Indoor Air: Environmental Tobacco Smoke Program, and the Indoor Air: Schools and Workplace Program.

Program Project Description

The Radiation and Indoor Environments National Laboratory (R&IE) conducts field measurements and assessments and provides technical support for indoor air quality remediations. The direct laboratory technical assistance provided to partners is used in assessing and recommending indoor environmental interventions designed to reduce health impacts to asthmatic children. R&IE also conducts training and provides technical support for development of Tribal capacity for indoor air quality programs, such as mold remediation, assessment and characterization of sources of volatiles and intruding vapors, and monitoring and measurement techniques.

FY 2006 Activities and Performance Highlights

EPA will continue conducting field measurements and assessments and providing technical support for indoor air quality remediations in FY 2006. EPA will also continue to provide direct laboratory technical assistance to partners to assess and recommend indoor environmental interventions designed to reduce health impacts to asthmatic children. EPA will also conduct several Indoor Air Quality (IAQ) intervention and remediation training courses which will continue to support development of tribal capacity for indoor air quality programs.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- There are increases for payroll and cost of living for new and existing FTE.

Statutory Authority

Clean Air Act Amendments of 1990 (CAA); Radon Gas and Indoor Air Quality Research Act; Title IV of the Superfund Amendments and Re-authorization Act (SARA) of 1986

Goal: Clean Air and Global Climate Change
Objective(s): Enhance Science and Research

Total Request for Appropriation S&T: $16,386.7 (Dollars in Thousands)

Research: Air Toxics (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Science & Technology	***$20,052.4***	***$17,638.9***	***$16,386.7***	***($1,252.2)***
Total Budget Authority / Obligations	$20,052.4	$17,638.9	$16,386.7	($1,252.2)
Total Workyears*	64.9	59.5	55.6	-3.9

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

EPA's air toxics research provides the scientific foundation for the Agency to fulfill its responsibilities under the Clean Air Act by increasing our understanding of hazardous air pollutants (HAPs), reducing uncertainty in national-scale, residual risk, and community-based assessments, and providing the tools (health hazard, exposure and emission methods, data, and models) needed to identify and implement cost-effective approaches to reduce risks from toxic air pollutants, including HAPs in both outdoor and indoor environments.

The Agency has developed an Air Toxics Research Strategy[1] that outlines research needs and priorities consistent with programmatic directions expressed by the Agency, Regions and other internal and external clients. In addition, the Air Toxics Research Multi-Year Plan (MYP),[2] another tool the Agency uses to plan and implement air toxics research, articulates the chief goals of EPA's air toxics research program as reducing uncertainty in air toxics assessments and providing tools to implement cost-effective approaches to reduce the health risks of exposure to HAPs. (R&D Criteria: Quality)

FY 2006 Activities and Performance Highlights

Air toxics research will focus on reducing uncertainty in air toxics risk assessments and supporting Agency, State, and local efforts to implement risk reduction strategies. The former will involve health effects and exposure research to develop and improve approaches to evaluate risks from both acute and chronic exposures to HAPs, and develop approaches to perform community assessments of air toxic exposures and risks.

[1] U.S. EPA, Office of Research and Development. Air Toxics Research Strategy. Washington, DC: EPA. Accessed October 12, 2003. Available on the Internet: http://www.epa.gov/ord/htm/Air_Toxics.pdf
[2] U.S. EPA, Office of Research and Development. Air Toxics Multi-Year Plan . Washington, DC: EPA. Accessed January 8, 2004. Available on the Internet: http://www.epa.gov/osp/myp/airtox.pdf

Research supporting the implementation of risk reduction strategies will concentrate on mobile source risk assessments and emissions reductions, and the development of residual risk standards through emissions and exposure research. Emissions research and additional exposure research will support the development of risk reduction programs resulting from national scale assessments. In addition, the results from the research planned will provide data to support Federal, State, and community efforts to implement non-regulatory approaches to reduce exposure to HAPs indoors.

Emission research also will examine sources of indoor toxic air pollutants, including transport from outdoors, advanced approaches to measure organic air toxics, and metal speciation of arsenic, nickel, and chromium in selected combustion systems to improve data used to develop emission factors and risk assessments. The Agency will continue to conduct exposure research to improve monitoring methods for HAPs in national monitoring networks, and establish common calibration and audit standards to provide a basis for uniformity of data at the national level, which will improve the conduct of assessments at that level.

In FY 2006, a portion of air toxics research will be accomplished using a new approach to applied research funding at EPA. This arrangement, based on the existing collaborative framework between the media and research offices, will help to ensure continued relevance and quality of applied research at EPA. This program project contains funds that will be provided to the Office of Air and Radiation to use a fee-for-service arrangement with the Office of Research and Development to obtain additional research focusing on the Agency's highest priority air toxics research needs.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- (+$900.0) Under a new approach to applied research funding at EPA, these funds will be provided to the Office of Air and Radiation to obtain additional research that focuses on the Agency's highest priority air toxics research needs. In FY 2006, research will be conducted to improve understanding of the sources, atmospheric distribution, and effects of the most significant toxic air pollutants, and to provide the information needed to address health risks and ensure adequate protection to the public.
- (-$2,000.0) These resources supported coordinated efforts with the Agency for Toxic Substances and Disease Registry which are expected to be completed by FY 2006.
- (-$702.0, -5.2 FTE) Workyears will be redirected from air toxics health effects research focused on reducing uncertainty in risk assessments to support an expansion of the Integrated Risk Information System (IRIS) program in the Human Health Risk Assessment program under Goal 4.
- There are additional increases for payroll and cost of living for existing FTE.

Statutory Authority

CAA

Goal: Clean and Safe Water
Objective(s): Enhance Science and Research

Total Request for Appropriation S&T: $45,690.0 (Dollars in Thousands)

Research: Drinking Water (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Science & Technology	***$43,036.6***	***$46,118.1***	***$45,690.0***	***($428.1)***
Total Budget Authority / Obligations	$43,036.6	$46,118.1	$45,690.0	($428.1)
Total Workyears*	198.4	214.7	210.0	-4.7

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

The drinking water research program directly supports several key elements of EPA's "Strategic Plan for Clean and Safe Water[1]" including developing or revising standards for contaminants of concern, effectively implementing these standards, and protecting drinking water sources. To help guide the program, EPA developed a Drinking Water Research Program Multi-Year Plan[2] in 2003, and previous research plans for Microbial Pathogens/Disinfection Byproducts (M/DBPs) in Drinking Water[3] and Arsenic in Drinking Water[4]. These plans were subjected to rigorous peer review and address those problems deemed most pressing in the area of drinking water quality (R&D Criteria: Quality, Relevance).

To meet the requirements of the 1996 Safe Drinking Water Act (SDWA) Amendments[5], EPA conducts an integrated, multi-disciplinary research program that is closely linked to the agency's regulatory activities and timelines. Research in this program project:

- provides new scientific data and analytical methods for identifying and evaluating the health effects of waterborne pathogens (e.g., *Cryptosporidium*, Norwalk virus) and chemicals (e.g., arsenic, disinfection byproducts) that may contaminate drinking water (assessments and methods for estimating risk to waterborne pathogens and chemicals are conducted under the Human Health Risk Assessment Program-Project); and

[1] U.S. EPA, Office of the Chief Financial Officer. *"2003 – 2008 EPA Strategic Plan: Direction for the Future."* Date of Access: January 14, 2004. Available through the internet: http://www.epa.gov/ocfo/plan/2003sp.pdf
[2] U.S. EPA, Office of Research and Development, Drinking Water Research Program Multi-Year Plan, Washington, D.C.
[3] U.S. EPA, Office of Research and Development. *Research Plan for Microbial Pathogens and Disinfection By-Products in Drinking Water*. Washington, D.C.: U.S. Government Printing Office. EPA 600-R-97-122. (1997).
[4] U.S. EPA, Office of Research and Development. *Research Plan for Arsenic in Drinking Water*. Washington, D.C.: U.S. Government Printing Office. EPA 600-R-98-042. (1998).
[5] Safe Drinking Water Act Amendments of 1996, Public Law 104-182. Available through the internet: http://www.epa.gov/safewater/sdwa/sdwa.html

- develops improved technologies for cost-effective control of these risks.

FY 2006 Activities and Performance Highlights

In FY 2006, drinking water research will continue to focus on distribution systems, source water protection, and arsenic. Three final reports detailing the results of full-scale demonstrations of arsenic treatment technologies will be provided to the EPA Water programs, states, local authorities, and utilities to support the implementation of the current arsenic rule. These reports address the special needs of small systems for arsenic removal and pathogen control in order to develop and demonstrate cost-effective treatment technologies that are easily installed and automated.

In FY 2006, EPA will continue to conduct research to characterize health effects, especially adverse reproductive outcomes, from the highest priority byproducts and DBP mixtures. EPA will also continue to evaluate the factors affecting DBP formation, and to develop improved analytical methods to detect and measure DBPs (including new byproducts, such as iodinated DBPs).

In addition to addressing regulated contaminants, research will continue to focus on microbes and chemicals on the CCL. This research plays a critical role in assessing the need and feasibility of controlling new contaminants under the CCL program. Research will continue to identify cost-effective contaminant control techniques, improved analytical detection methods for measuring the occurrence of chemicals and microbes on the CCL, improved health effects and risk assessments, and innovative classification and prioritization methods.

In FY 2006, a portion of drinking water research will be accomplished using a new approach to applied research funding at EPA. This arrangement, based on the existing collaborative framework between the media and research offices, will help to ensure continued relevance and quality of applied research at EPA. This program project contains funds that will be provided to the Office Water to use a fee-for-service arrangement with the Office of Research and Development to obtain additional research focusing on the Agency's highest priority drinking water research needs.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- (+ $1,000.0) Under a new approach to applied research funding, these funds will be provided to EPA's Office of Water to obtain additional research focusing on the Agency's highest priority drinking water research needs. In FY 2006, research will support existing drinking water research activities in areas such as epidemiological studies, microbial research including risk management research on selected contaminants, and test methods research and implementation.

- (+$405.0, + 3.0 FTE) This increase reflects the realignment of resources from computational toxicology to drinking water research. The work will continue to perform research to further develop the use of computational toxicology tools in support of regulatory needs across the Agency.

- (-$1,500.0) Redirection to drinking water research in support of the review/revision of current rules for arsenic, disinfection byproducts (DBPs), surface water/ground water, and 6-year review. Resources will be redirected to other higher priority research.

- (-$675.0, -5.0 FTE) This shift from the drinking water research program to the water quality research program will allow the overall water research program the flexibility to integrate drinking water source water protection and water quality research. The shift will not diminish the level of effort for water research as a whole.

- There are additional increases for payroll and cost of living for existing FTE.

Statutory Authority

SDWA; CWA; MPRSA

Goal: Healthy Communities and Ecosystems
Objective(s): Enhance Science and Research

Total Request for Appropriation S&T: $8,705.0 (Dollars in Thousands)

Research: Endocrine Disruptor (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Science & Technology	***$11,616.1***	***$8,044.0***	***$8,705.0***	***$661.0***
Total Budget Authority / Obligations	$11,616.1	$8,044.0	$8,705.0	$661.0
Total Workyears*	51.4	55.0	54.9	-0.1

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

Research in direct support of EPA's screening and testing programs (mandated under the Food Quality Protection Act (FQPA) of 1996 and the Safe Drinking Water Act Amendments[1] (SDWAA) of 1996) will evaluate current testing protocols and develop new protocols to evaluate potential endocrine effects of environmental agents. Research will assist decision makers in working toward reducing and preventing exposure of humans and ecosystems to endocrine disruptors that pose an unreasonable risk. This program underwent a PART review in 2006 and received a rating of Adequate.

FY 2006 Activities and Performance Highlights

In FY 2006, EPA will continue to develop and evaluate an innovative DNA microarray and other state-of-the-art analytical methods for EDCs. EPA's endocrine disruptors research program has developed and refined assays, and improved other screening tools using genomics and high-speed computing capabilities so that EPA's Prevention, Pesticides, and Toxic Substances program has the necessary protocols to validate for use in the Agency's Endocrine Disruptors Screening Program. Using genomics in the continued development of improved molecular and computational tools that can be used to prioritize chemicals for screening and testing is within the "Biology of Complex Systems" category highlighted as a priority for Federal investment by the Office of Management and Budget (OMB) and Office of Science and Technology Policy (OSTP)[2].

[1] SDWA Section 1457
[2] Updated Administration Research and Development Budget Priorities memo by J.Marburger and J. Bolten; August 12, 2004.

In FY 2006, this research program expects to complete a protocol to screen environmental chemicals for their ability to interact with the male hormone receptor. Other important areas of research to be conducted in FY 2006 include:

- Applying computational and molecular approaches to develop models that predict a chemical's ability to cause endocrine disruption;
- Continuing to study the ability of conventional wastewater treatment and drinking water treatment process to remove EDCs;
- Increasing emphasis on studying concentrated feeding operations as possible sources of EDCs to the environment;
- Continuing to examine children's exposure to EDCs through support to a longitudinal study started in FY 2004 designed to examine very young children's aggregate exposures to selected pesticides, EDCs, and other persistent pollutants; and
- Continuing to define toxicity pathways as a basis for extrapolation across species (e.g., from aquatic to mammalian organisms) and levels of organization (e.g., from molecular to cellular, tissue, organ and whole organism levels), which will lead to the reduction of animal use in testing.
- Continuing to work with EPA's Prevention, Pesticides, and Toxic Substances program to meet programmatic objectives and statutory requirements.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- (+$200.0) This increase reflects the realignment of resources from computational toxicology to endocrine disruptors' research. There are no performance impacts associated with this shift as the work will continue to perform research to further develop the use of computational toxicology tools in support of regulatory needs across the Agency.

- There are additional increases for payroll and cost of living for existing FTE.

Statutory Authority

CAA; ERDDA; FIFRA; TSCA; FQPA; SDWA; TSCA; CWA; SDWA; RCRA; CAA; CERCLA; PPA

Goal: Compliance and Environmental Stewardship
Objective(s): Enhance Science and Research

Total Request for Appropriation S&T: $3,202.6 (Dollars in Thousands)

Research: Environmental Technology Verification (ETV) (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Science & Technology	***$3,542.9***	***$2,996.8***	***$3,202.6***	***$205.8***
Total Budget Authority / Obligations	$3,542.9	$2,996.8	$3,202.6	$205.8
Total Workyears*	6.8	6.0	4.7	-1.3

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

The Environmental Technology Verification (ETV) program[3] verifies the performance of environmental technologies that address high-priority, high-risk environmental issues. These technologies are submitted voluntarily by private industry, which cite ETV's findings to support claims about a product's capabilities. ETV only verifies the performance of commercial-ready technologies, allowing the program to respond to the immediate needs of the environmental technology market. To date, ETV has verified over 300 environmental technologies and has an active community of nearly 800 collaborating stakeholders.

EPA's Science Advisory Board (SAB) has reviewed the ETV program twice and concluded during its second review that "the verification testing information that is provided by the ETV program fulfills an essential need of the environmental technology marketplace."[4]

ETV also supports state, national, and international efforts to address environmental issues with technological solutions. States use ETV data and protocols to shorten site-specific pilot testing of technologies, and some require verification of technologies used to comply with State and Federal pollution laws. The ETV program's operating procedures and the testing protocols it produces serve as peer-reviewed standards for the international and business communities on how to verify different types of environmental technologies.

[3] For more information, visit: <http://www.epa.gov/etv>
[4] EPA, Science Advisory Board, *Review of EPA's Environmental Technology Verification Program, (Washington: EPA, 2000).* Available on the Internet at: <http://www.epa.gov/sab/pdf/eec0012.pdf>

FY 2006 Activities and Performance Highlights

In FY 2006, the ETV program will verify approximately 15 technologies. The program will also work with stakeholders and independent labs to develop two to four peer-reviewed procedures for evaluating technology categories. (R&D Criteria: Quality) To address the findings of a Program Assessment Rating Tool (PART) review, the program is working to better measure its performance and evaluating its results to date. In FY 2006, ETV will conduct surveys to assess how it has influenced vendors and develop surveys to assess its influence on technology purchasers and permitters. The program will also reorganize its centers to focus on environmental and pollution monitoring and air emissions controls and will establish a new sustainability-focused component, Environmental and Sustainable Technology Evaluation (ESTE), designed to address high-risk technology gaps and emerging issues more flexibly.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- There are additional increases for payroll and cost of living for existing FTE.

Statutory Authority

CAA; CWA; FIFRA; PPA; RCRA; SDWA; SARA; TSCA

Goal: Healthy Communities and Ecosystems
Objective(s): Enhance Science and Research

Total Request for Appropriation S&T: $169,632.3 (Dollars in Thousands)

Research: Human Health and Ecosystems (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Science & Technology	***$175,970.3***	***$177,407.5***	***$169,632.3***	***($7,775.2)***
Hazardous Substance Superfund	$0.2	$0.0	$0.0	$0.0
Total Budget Authority / Obligations	$175,970.5	$177,407.5	$169,632.3	($7,775.2)
Total Workyears*	518.2	524.5	505.9	-18.6

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

The Agency conducts core human health and ecosystems research 1) to identify and characterize environmentally-related human health problems, and determine exposures to and sources of agents responsible for these health concerns and 2) to understand the condition of ecosystems, the stressors changing that condition, the consequences of those changes, and how to prevent, mitigate, or adapt to those changes. More targeted efforts include mercury research and research on indicators to support the Report on the Environment that are critical to measure environmental impacts. Under this program project, several multi-year plans (MYPs)[1] (e.g., human health, ecological research) convey our research priorities and approach for achieving its goals and objectives. These plans were created through intra-agency support and coordination, to ensure the research conducted supports EPA's mission to protect human health and the environment (R&D Criteria: Relevance).

FY 2006 Activities and Performance Highlights

In FY 2006, EPA will support research to determine the utility of emerging technologies in harmonizing cancer and non-cancer risk assessments. Through this research, ORD will develop emerging '*omics* methodologies (genomics, proteomics, and metabonomics) for mechanistic studies on selected high priority environmental agents. EPA will also continue examining promising new biomarkers of exposure and effects, which can be used in future exposure and epidemiological studies, such as the National Children's Study (NCS).

[1] For additional information, please go to www.epa.gov/osp/myp

Research on susceptible subpopulations will continue efforts to develop emissions data, models, and other tools that will inform school systems about the indoor environmental implications of materials and products used in schools, and assist them in reducing exposure of susceptible children to indoor contaminants. Also, the Agency will sponsor epidemiology studies conducted in rural and urban communities to examine relationships describing: 1) indoor and outdoor air contaminants levels with the onset, incidence and severity of children's asthma, and 2) neurodevelopmental effects and children's exposure to pesticides.

Environmental Monitoring and Assessment Program (EMAP) research efforts are guided by the *EMAP Research Strategy*, published in 2002.[2] Major efforts under EMAP include the National Coastal Assessment (NCA), Western EMAP (WEMAP), Central Basin Integrated Assessment, work in landscape ecology, and programs to develop and refine environmental indicators. The WEMAP program is conducting the largest interstate, interagency, comprehensive study of western streams. The results from WEMAP, NCA, and FY 2005 wetlands reporting efforts will be used to guide the development of monitoring frameworks for other aquatic ecosystems.[3]

The Regional Vulnerability Assessment (ReVA) program extends environmental assessments at the regional scale by using integrative technologies to predict future environmental risk in order to support decision-making and prioritization. Diagnosis and forecasting models previously developed are being successfully applied to provide a better scientific basis for ecosystem protection and restoration, and provide important support for a number of programs. Restoration research provides environmental managers with improved tools for rehabilitating watershed ecosystems, reducing stressors, and enhancing the natural resilience of ecosystems. In FY 2006 EPA will continue research to evaluate the effectiveness of restoration options for aquatic ecosystems, with particular emphasis on options for the Mid-Atlantic Region and the western United States.

In FY 2006, EPA will also release the next (triennial) Report on the Environment (ROE) which describes EPA's strategic shift beyond its historic reliance on indicators of reduction in exposures to more direct outcome measures, while maintaining emphasis on the identification, development, and application of existing and future indicators that extend EPA's ability to assess environmental condition and progress.

Mercury research will focus exclusively on evaluating the cost and performance of options to reduce mercury emissions from coal-fired utility boilers and further testing of continuous source emission monitors (CEMs). Work on control technologies will include pilot- and full-scale testing of systems that optimize mercury, SO2, and NOx control from the combustion of bituminous, sub-bituminous, and lignite coals and evaluation of the performance and cost of promising control technologies under development (e.g. new sorbents) and assessing how these technologies impact the characteristics of coal combustion residues.

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2 U.S. EPA, Office of Research and Development. Environmental Monitoring Assessment Program: Research Strategy. Washington, D.C.: U.S. Government Printing Office. EPA 620-R-02-002. (2002). Available through the internet: http://www.epa.gov/emap/html/pubs/docs/resdocs/resstrat02.html

3 U.S. EPA, Office of Research and Development, Office of Water. National Coastal Condition Report. Washington, D.C.: U.S. Government Printing Office. EPA 620-R-01-005. (2001). Available through the internet: http://www.epa.gov/owow/oceans/nccr/chapters/cwapcover.pdf

The Agency's new Advanced Monitoring Initiative (AMI) will bring together information technology advancements with advances in remote sensing. EPA and its partners will integrate socioeconomic, human health and ecosystem databases, and monitor the health of humans and the environment over greater expanses, in less time, and more cost-effectively than ever before. This effort will be highly leveraged with other agencies, including the National Oceanic and Atmospheric Administration, the National Aeronautics and Space Administration, the U.S. Geological Survey, and the Department of Energy, and is linked with the international community through the Global Earth Observation Systems of Systems (GEOSS) program.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- (+$5,314.8) This redirection from air research in Goal 1, and mercury and PBT research in Goal 4 will support EPA's Advanced Monitoring Initiative (AMI). Outcomes under this initiative are expected to be delivered in relatively short timeframes, with far-reaching results--particularly with State and Regional entities responsible for making environmental decisions and responding to environmental threats. Potential outcomes benefiting air research in Goal 1 include improvements in characterizing urban air pollution through demonstrations of optical remote sensing technologies, and the initiation of a state-of-the-science monitoring location in an urban area. Other potential benefits include enhanced water quality monitoring and forecasting for recreational waters, including storm event coastal sewage contamination, and drinking water source water (Goal 2), and enhanced tracking of major ecosystem stressors and forecasting of effects on coral reef health, including climate and land use changes (Goal 4).

- (+$1,282.5, +9.5 FTE) This redirection from the pesticides and toxics research program to the human health research program will augment critical research on modes of action of high priority environmental agents, such as conazoles air pollutants, and will consolidate efforts in harmonization of cancer and non-cancer risk assessment.

- (+$1,081.0) This shift redirects resources to high priority research in the human health from computational toxicology. The Agency will increase emphasis in the areas of harmonization of cancer and non-cancer effects and cumulative risk, which is high priority research for many Agency program offices, the Regions, and the States.

- (+$769.5, +5.7 FTE) This adjustment reflects a realignment of Food Quality Protection Act (FQPA) cumulative risk research to the human health research program. The realignment consolidates the Agency's cumulative risk research under Goal 4, which allows for greater coordination of research efforts given the core scientific nature of this research and the focus on mode-of-action.

- (+$594.0, +4.4 FTE) This redirection of workyears from the Homeland Security research program will support high priority research in mercury, cumulative risk and susceptible subpopulations.

- (+$486.0, +3.6 FTE) This adjustment reflects the realignment of workyears from the Sustainability research program in Goal 5 to the human health research program, focusing on

children's health. This shift will support research developing emissions data, models, and other tools that will inform school systems about the indoor environmental implications of materials and products used in schools, and assist them in reducing exposure of susceptible children to indoor contaminants.

- (+$459.0, +4.4 FTE) This workyear increase reflects a redirection into the mercury research program from pollution prevention research in Goal 5. This shift will provide additional support to research on evaluating the cost and performance of options to reduce mercury emissions from coal-fired utility boilers and further testing of continuous source emission monitors (CEMs).

- (-$5,800.0) This reduction will affect various portions of the ecosystem protection research program (FY 2005 Base - $94,079.8), including Western EMAP, the National Coastal Assessment (NCA), ReVA (Regional Vulnerability Assessment) tools, and watershed modeling research. EPA is working to address findings of a Program Assessment Rating Tool (PART) evaluation, which recommended that the program develop improved performance measures.

- (-$5,000.0) Reduction in the exploratory grants program (FY 2005 Base – $10,005.3), which supports investigator-initiated research projects that address future or emerging environmental issues. Resources will be redirected to other, higher priority Agency efforts. The majority of FY 2006 exploratory grants will be in the field of nanotechnology.

- **(-**$2,398.9) This reduction represents a redirection of resources from the mercury research program to support the Advanced Monitoring Initiative (AMI). EPA expects to have completed advance work on Clear Skies or related mercury emissions rulemakings by 2006. This reduction will discontinue research on minimizing releases of mercury from non-combustion sources (e.g. oil, gas, sediments) and gathering data to support guidance, regulations, and policies for managing these relatively minor sources. EPA will continue to conduct mercury research supporting methods to reduce mercury emissions from coal-fired utility boilers and further testing of continuous source emission monitors (CEMs).

- (-$2,656.4, -14.1 FTE) This represents a shift from the ecosystem protection research program (FY 2005 Base - $94,079.8) in Goal 4 to the water quality research program in Goal 2 to more accurately reflect emphasis of strategic goals related to water quality research. There is no change in the nature of scope of the work.

- (-$1,514.1, -14.7 FTE) This reduction is in accordance with the Agency workforce adjustment described in the overview section. This represents a reduction to the total number of Agency authorized positions, but not to overall Agency FTE utilization.

- (-$1,296.0, -9.6 FTE) Reallocation of program support workyears from human health and ecosystems research to more accurately reflect support for Agency priorities.

- (-$1,030.1, -5.8 FTE) This is a realignment of the Causal Analysis and Diagnosis Decision Information System (CADDIS) data base from ecosystem protection research.

- (FY 2005 Base - $94,079.8) in Goal 4 to water quality research in Goal 2. There will be no programmatic or performance impacts associated with this shift as the work will not change in nature or scope.

- (-$904.5, -6.7 FTE) Workyears are being redirected from the human health and ecosystem protection research program to support efforts in areas such as Homeland Security and the Integrated Risk Information System (IRIS) research programs.

- (-$683.0) This reflects a reduction in funding for aggregate risk research. EPA will reduce its aggregate risk research efforts related to human exposure, dose modeling, and human health risk assessment, as well as its ability to demonstrate the applications of such research (via case studies and chemical assessments). This reduction will also delay by two years research that incorporates human exposure measurement data into the human exposure database systems.

- (-$547.1) This is a reduction to the ecosystem protection research program in Goal 4 and will reduce research to develop tools necessary to assess the condition of estuaries throughout the Gulf of Mexico.

- There are additional increases for payroll and cost of living for existing FTE.

Statutory Authority

CAA; SDWA; ERDDA; CWA; FIFRA; FFDCA; RCRA; FQPA; TSCA

Goal: Land Preservation and Restoration
Objective(s): Enhance Science and Research

Total Request for Appropriation S&T: $13,696.5 (Dollars in Thousands)

Research: Land Protection and Restoration (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Science & Technology	***$10,230.3***	***$8,841.9***	***$13,696.5***	***$4,854.6***
Leaking Underground Storage Tanks	$627.1	$628.5	$646.2	$17.7
Oil Spill Response	$928.2	$917.8	$905.7	($12.1)
Hazardous Substance Superfund	$32,264.8	$22,671.1	$23,098.7	$427.6
Total Budget Authority / Obligations	$44,050.4	$33,059.3	$38,347.1	$5,287.8
Total Workyears*	142.4	136.8	135.6	-1.2

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

Research performed under this program supports scientifically defensible and consistent decision-making for Resource Conservation and Recovery Act (RCRA) waste management and corrective action by providing a tested multimedia modeling system and technical support to those who use the model to make environmental decisions. Research and support within this program addresses resource conservation, corrective action, hazardous waste treatment, multimedia modeling, landfills, leaching, containment systems, and landfill bioreactors. To guide these research efforts, EPA has developed a draft Multi-Year Plan for Hazardous Waste[19] research, with input from across the Agency, to ensure research conducted supports the Agency's mission to protect human health and the environment (R&D Criteria: Relevance). Specific human health risk and exposure assessments and methods and site specific risk characterizations are discussed and conducted under the Superfund Human Health Risk Assessment Program-Project.

FY 2006 Activities and Performance Highlights

In support of EPA's Resource Conservation Challenge (RCC), a major national effort to reduce waste by promoting the use of recycled products to conserve natural resources, EPA will continue to develop prudent options for minimizing waste, and for assessing the performance of waste minimization programs through multimedia risk assessments. In FY 2006, EPA will

19 U.S. Environmental Protection Agency. (2003). Hazardous Waste Multi-Year Plan. [online] Available: http://www.epa.gov/osp/myp/rcra.pdf

continue to collaborate with the private sector to conduct field sampling, and with the states to optimize operations and monitoring of several landfill bioreactors and determine their potential to provide alternative energy in the form of landfill gas while increasing the nation's landfill capacity. EPA will continue to conduct field studies on monitored natural attenuation (MNA) of mobile metals, which offers an alternative to more conventional cleanup methods at lower cost and with less intrusion to the surrounding environment.

In FY 2006, a portion of the research in this program will be accomplished using a new approach to applied research funding at EPA. This arrangement, based on the existing collaborative framework between the media and research offices, will help to ensure continued relevance and quality of applied research at EPA. This program project contains funds that will be provided to the Office of Solid Waste and Emergency Response to use a fee-for-service arrangement with the Office of Research and Development to obtain additional research focusing on the Agency's highest priority land protection and restoration research needs.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- (+$4,500.0) Under a new approach to applied research funding, these funds will be provided to EPA's Solid Waste and Emergency Response program to obtain additional research focusing on the Agency's highest priority land protection and restoration research needs. In FY 2006, this research will address a variety of program needs, such as site remediation, resource conservation, risk analysis and risk reduction, and waste minimization.

- (+$910.0, +7.0 FTE) This increase in workyears represents a realignment of resources from EPA's Sustainability Program Project to support ongoing hazardous waste combustion and containment research, landfill bioreactor research, and Resource Conservation Challenge (RCC) priorities. This research focuses on the development of emissions evaluations and improved waste disposal and treatment options, and is essential to EPA program offices, Regions, and the states.

- (-$500.0) This reduces funding for the Multimedia, Multireceptor, Multipathway Risk Assessment (3MRA) decision support tool, specifically the ground water/surface water module and the integration of methodologies and software. Other priority hazardous waste research will continue.

- There are additional increases for payroll and cost of living for existing FTE.

Statutory Authority

SWDA; HSWA; SARA; CERCLA; RCRA; OPA; BRERA

Goal: Healthy Communities and Ecosystems
Objective(s): Enhance Science and Research

Total Request for Appropriation S&T: $29,752.7 (Dollars in Thousands)

Research: Pesticides and Toxics (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Science & Technology	***$33,073.2***	***$29,017.7***	***$29,752.7***	***$735.0***
Total Budget Authority / Obligations	$33,073.2	$29,017.7	$29,752.7	$735.0
Total Workyears*	163.2	145.5	124.0	-21.5

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

The Pesticides and Toxics research program is a multidisciplinary program that examines risks resulting from exposure to pesticides and toxic chemicals. The research is designed to support the Agency's efforts to reduce current and future risks to the environment and to humans by preventing and/or controlling the production of new chemicals that pose unreasonable risk, as well as assessing and reducing the risks of chemicals already in commerce. The development of methods and assessments for predicting risks to human health are conducted under the Human Health Risk Assessment program/project.

FY 2006 Activities and Performance Highlights

In FY 2006, research will continue to focus on the four major goals of the pesticides and toxics research program:

Providing predictive tools for prioritization and enhanced interpretation of exposure, hazard identification and dose-response information: This research will develop/validate 1) predictive biomarkers of neurotoxic effects for major classes of pesticides, 2) alternative test methods for the hazard identification of developmental neurotoxicants, 3) virtual chemical screening methods for risk-based prioritization and ranking needs for chronic non-cancer effects, and 4) quantitative structure activity relationships (QSARs) to relate various structural descriptions of molecules to toxicity endpoints.

Creating the scientific foundation for probabilistic risk assessment methods to protect natural populations of birds, fish and other wildlife: This research directly supports EPA's efforts to assure that endangered species are protected from pesticides while making sure that farmers and communities have the pest control tools they need.

Providing the scientific underpinnings for guidance to prevent or reduce risks of human environments within communities, homes, workplaces: Research will improve the capability to assess the ecologic risks associated with genetically modified organisms (GMOs) and provide tools for characterizing community and regional exposures associated with the use of agricultural pesticides (Spray Drift).

Providing strategic scientific information and advice concerning novel or newly discovered hazards: Tools and models will be developed in FY 2006 to assess and predict risks from exposure to perfluorinated organic chemicals. Additionally, the Agency will establish a database of toxicity profiles for various perfluorinated organic chemicals in laboratory animal and wildlife models in order to facilitate the risk assessment of these chemicals.

In FY 2006, a portion of Pesticides and Toxic Substances research will be accomplished using a new approach to applied research funding at EPA. This approach, based on the existing framework of collaboration between the media and research offices, will help to ensure continued relevance and quality of applied research at EPA. This program project contains funds that will be provided to the Pesticides and Toxic Substances program office to use a fee-for-service arrangement with the Office of Research and Development to obtain additional research focusing on the Agency's highest priority pesticides and toxics research needs. Potential areas of focus for this new approach to research include, but are not limited to the following areas: 1) enhancing EPA's ability to conduct screening of and set priorities for further health or environmental effects testing of toxic chemicals and pesticides; 2) assessment of aggregate exposure and cumulative risks for pesticides and toxic chemicals; 3) development and validation of new or improved health and environmental effects test methods, especially those relating to endocrine disruption.

FY 2006 Change from FY 2005 Budget (Dollars in Thousands)

- (+$4,500.0) Under a new approach to applied research funding at EPA, these funds will be provided to the Office of Prevention, Pesticides, and Toxic Substances to obtain additional research focusing on the Agency's highest priority pesticides and toxics research needs. In FY 2006, this research will focus in areas such as aggregate exposure, cumulative risk, test methods, fate and transport, and hazard characterization.

- (+$500.0) This increase represents realignment to safe communities' research from the computational toxicology research program. The resources will support research on predictive tools for prioritization and enhanced interpretation of exposure, hazard identification and dose-response information, a high priority area for the Agency.

- (-$1,282.5, -9.5 FTE) This is a realignment from the Food Quality Protection Act (FQPA) research program to the human health research program focusing on the harmonization of cancer and non-cancer risk assessment.

- (-$928.0) This shift represents a redirection of resources from research on persistent bioaccumulative toxics (PBTs) to support the Advanced Monitoring Initiative (AMI). This reduction will discontinue support for research supporting the Routine PBT Monitoring Strategy. However, the AMI will provide the potential opportunity to bring benefits to PBT monitoring efforts by bringing together disparate data sets for environmental decision making (e.g. SEQL in North and South Carolina - air quality, water quality, land use, growth patterns, etc.) related to pollutant emission sources.

- (-$769.5, -5.7 FTE) This is realignment of resources from FQPA to human health research focusing on cumulative risk and susceptible subpopulations. The principles and methodologies developed through FQPA research have many similarities to the cumulative risk research in the human health program.

- (-$733.5) Reduction to FQPA (cumulative risk) and biotechnology research to assess the ecological risks associated with genetically modified organisms. Other pesticides and toxics research will continue.

- (-$634.5, -4.7 FTE) Reallocation of program support workyears to more accurately reflect support for agency priorities.

- There are additional increases for payroll and cost of living for existing FTE.

Statutory Authority

FQPA; FIFRA; TSCA; CWA; CAA

Goal: Clean and Safe Water
Objective(s): Enhance Science and Research

Total Request for Appropriation S&T: $55,899.8 (Dollars in Thousands)

Research: Water Quality (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Science & Technology	***$47,049.1***	***$46,809.8***	***$55,899.8***	***$9,090.0***
Total Budget Authority / Obligations	$47,049.1	$46,809.8	$55,899.8	$9,090.0
Total Workyears*	229.8	229.7	251.8	22.1

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

Although the quality of the Nation's waters has shown improvement, threats to water quality remain and new threats continue to arise. The adoption and implementation of watershed management approaches by states and tribes require strong standards, monitoring, Total Maximum Daily Load (TMDL) determinations, and implementation programs (e.g., National Pollutant Discharge Elimination System (NPDES) permits) (R&D Criteria: Relevance). Water quality research provides the sound science needed to implement effective watershed management approaches by developing methods to: apply criteria that support designated uses of water bodies; monitor and assess water body conditions; diagnose causes and sources of water body impairments and; protect and restore water bodies and to forecast the effectiveness of protection/restoration alternatives.

FY 2006 Activities and Performance Highlights

In FY 2006, EPA research on diagnostic methods will continue to focus on the causes and sources of aquatic ecosystem impairment. Specifically, this research will provide:

- the scientific foundation and information management scheme for the 303(d) listing process[1], including a classification framework for surface waters, watersheds, and regions to guide problem formulation; and

[1] U.S. EPA, Office of Water, Guidance for 2004 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d) and 305(b) of the Clean Water Act, TMDL, July 21, 2003. Available at http://www.epa.gov/owow/tmdl/policy.html.

- diagnostic methods to distinguish among major classes of individual aquatic stressors and/or suggest causal mechanisms that contribute to impairment of marine and freshwater systems.

To support the protection of water quality, a number of research activities will continue. Studies will be conducted on the transport and control of contaminants from agricultural operations that reach the environment through surface runoff, or leaching to ground water. Research on wetlands will compare natural and constructed wetlands to determine how seasonal changes in hydrologic regime, stressor load, and upland land use affect the functioning of these systems.

To provide more efficient monitoring and diagnostic tools, research will continue to develop methods of using landscape assessments for monitoring and assessing watershed conditions. Improved fate and transport models will more accurately forecast the effectiveness of protection and restoration alternatives. To help establish State standards that more accurately assess the biological condition of water bodies, research will continue to improve bioassessment and biocriteria development methods, particularly for poorly studied water bodies.

To minimize the public health risks from swimming and other recreational water activities, research will specifically focus on both developing techniques to reduce wet weather flow (WWF) impacts and providing data to support the development of scientifically sound criteria for protecting recreational waters[2]. Guided by the "EPA Action Plan for Beaches and Recreational Waters"[3] and the Beaches Act of 2000, EPA is performing a suite of epidemiological studies to establish a strong, defensible link between rapid water quality indicators and swimming-associated health effects.

To make better management decisions on how to achieve the designated uses of waterbodies, research will improve the predictive ability of stressor-response relationships and models to assess the risk of habitat alteration and toxic chemicals on aquatic ecosystems and aquatic-dependent wildlife.

In FY 2006, a portion of water quality research will be accomplished using a new approach to applied research funding at EPA. This approach, based on the existing framework of collaboration between the media and research offices, will help to ensure continued relevance and quality of applied research at EPA. This program project contains funds that will be provided to the Office of Water to use a fee-for-service arrangement with the Office of Research and Development to obtain additional research focusing on the Agency's highest priority water quality research needs.

FY 2006 Change from FY 2005 Budget Request (Dollars in Thousands)

- (+ $3,500.0) Under a new approach to applied research funding at EPA, these funds will be provided to the Office of Water to obtain additional research focusing on the Agency's

[2] U.S. EPA, Office of Research and Development. *Risk Management Research Plan for Wet Weather Flows.* Available through the internet: http://www.epa.gov/ednnrmrl/repository/wwfplan/wwf_plan.pdf

[3] U.S. EPA, Office of Research and Development, Office of Water. *EPA Action Plan for Beaches and Recreational Waters.* Washington, D.C.: U.S. Government Printing Office. EPA 600-R-98-079. (1999). Available through the internet: http://www.epa.gov/ord/WebPubs/beaches/600r98079.pdf

highest priority water quality research needs. This research will support existing research activities in areas such as epidemiological studies, monitoring and diagnostic tools, biological and chemical stressors on aquatic life along with risk management tools, test methods research and implementation, and design and implementation of statistically valid biological monitoring methods.

- (+$2,656.4, +14.1 FTE) This research will evaluate linkages between Best Management Practices (BMP) selection, placement and design for water quality improvements, and the effectiveness of BMPs on a watershed scale. Research will build on existing strengths and capabilities to address critical needs in diagnostics, restoration, and forecasting to attain water quality standards. In addition, this collaborative research will promote a better understanding of impairment in coastal receiving waters and identify research needs for indicator development. These resources will be shifted from the ecosystem protection research program in Goal 4.

- (+$1,030.1, +5.8 FTE) This represents realignment from the ecosystem protection research (diagnosis) in Goal 4 to water quality research (diagnosis) in Goal 2. These resources support the Causal Analysis and Diagnosis Decision Information System (CADDIS) database which helps scientists and decision makers who must determine the cause of biological impairment so the appropriate remedial, regulatory or restoration actions can be taken.

- (+$675.0, +5.0 FTE) This represents a shift within Goal 2. Resources are being redirected from the drinking water research program to the water quality research program to support the characterization and control of urban wet weather flow and to provide the technical basis for TMDLs. This shift also supports research on biosolids management.

- (-$679.8, - 6.6 FTE) This reduction is in accordance with the Agency workforce adjustment described in the overview section. This represents a reduction to the total number of job positions, but not to actual FTE levels.

- (-$100.0) This reduction will result in delaying a case study report on biosolids field application.

- There are additional increases for payroll and cost of living for existing FTE.

Statutory Authority

CWA; ODBA; SPA; CVA; WRDA; WWWQA; MPPRCA; NISA; CZARA; CWPPRA; NAWCA; FIFRA; TSCA; ESA

Goal: Healthy Communities and Ecosystems
Objective(s): Enhance Science and Research

Total Request for Appropriation S&T: $13,832.4 (Dollars in Thousands)

Research: Computational Toxicology (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Science & Technology	***$5,917.0***	***$13,028.7***	***$13,832.4***	***$803.7***
Total Budget Authority / Obligations	$5,917.0	$13,028.7	$13,832.4	$803.7
Total Workyears*	31.1	23.0	34.9	11.9

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

While EPA has long worked toward obtaining the studies needed to reduce, refine, and replace existing test methods, computational toxicology (CT) research has the potential to lead to more sensitive and specific testing protocols and risk assessment methods and to a reduction in animal testing by developing alternative techniques for prioritizing chemicals for further testing. EPA's CT Research Program has three objectives: 1) improving the linkages in the source-outcome paradigm; 2) providing tools for screening and prioritization of chemicals under regulatory review; and 3) enhancing quantitative risk assessment.

In FY 2005, EPA created the National Center for Computational Toxicology[1] to play a critical coordination and implementation role across the agency. The center will advance the science needed to more quickly and efficiently evaluate the potential risk of chemicals to human health and the environment and work to develop partnerships with organizations in the public and private sectors.

This research supports the "Molecular-level Understanding of Life Processes" activity - one of the Administration's six interagency priority areas for research and development. (R&D Criteria: Relevance)

FY 2006 Activities and Performance Highlights

In FY 2006, the CT program will continue developing tools and approaches for the prioritization of screening and testing needs in the areas of endocrine disruptors, pesticidal inerts, and non-food use anti-microbial agents. Application of these approaches to the screening and testing

[1] For additional information, please go to www.epa.gov/comptox

needs of EPA program offices (e.g., the Prevention, Pesticides, and Toxic Substances program and the Air program) will also be evaluated.

The CT program also expects to deliver the first alternative assay for animal testing of environmental toxicants. This will be accomplished with an in-vitro cell line to study the potential of chemicals to stimulate the excessive production of steroids within living systems. This assay could be a replacement for a currently used animal-based assay in the Tier 1 screening battery of compounds that may disrupt the body's endocrine or hormonal systems.

In addition, the CT program will add a number of new toxicological databases to the Distributed Structure-Searchable Toxicity (DSSTox) system, expand the breadth of chemicals evaluated through computational models of nuclear receptor-ligand docking preferences, provide an expanded list of chemicals tested through the androgen and estrogen cell lines developed by EPA, and communicate the results of two conferences on the application of genomic technologies to eco-toxicological and human health risk assessment processes.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- (+$2,538.0, +18.8 FTE) This workyear increase will support the National Center for Computational Toxicology. The Center will play a critical coordination and implementation role across the agency and advance the science needed to more quickly and efficiently evaluate the potential risk of chemicals to human health and the environment. These workyears will be redirected from a variety of research areas.

- (+$405.0, +3.0 FTE) Reallocations of program support workyears to more accurately reflect support for agency priorities.

- (+$250.0) This realignment to computational toxicology from National Ambient Air Quality Standards (NAAQS) research will further the development of rapid screening and prioritization approaches and will support swifter development of these tools.

- (-$2,531.0, -8.8 FTE) This is a realignment of resources from computational toxicology to high priority research areas such as drinking water, endocrine disruptors and human health. There are no performance impacts associated with this shift as the workyears will continue to perform research to further develop the use of computational toxicology tools in support of regulatory needs across the Agency.

- There are additional increases for payroll and cost of living for existing FTE.

Statutory Authority

TSCA; FIFRA; FQPA; SDWA

Goal: Compliance and Environmental Stewardship
Objective(s): Enhance Science and Research

Total Request for Appropriation S&T: $2,644.6 (Dollars in Thousands)

Research: Economics and Decision Science (EDS) (S&T)
(Dollars in Thousands)

	FY 2004 Obligations**	FY 2005 Pres. Bud.**	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Science & Technology	***$2,659.5***	***$2,475.6***	***$2,644.6***	***$169.0***
Total Budget Authority / Obligations	$2,659.5	$2,475.6	$2,644.6	$169.0
Total Workyears*	2.0	3.0	3.0	0.0

* Agency Authorized FTE levels are being aligned with actual utilization. See overview section.
** Resources under this Program Project were formerly captured under the Pollution Prevention Program Project. In the FY 2005 request, the EDS portion of the Pollution Prevention Program Project was $2.5M and 3.0 FTE. The FY 2004 obligation levels are estimates.

Program Project Description

Economics and Decision Sciences (EDS) is an environmental economics and behavioral science research program designed to improve EPA's decision making, cost-benefit analyses, and implementation strategies.[1] EDS research focuses on areas such as:

- How people value their health and the environment;
- Corporate and consumer environmental behavior;
- Market mechanisms and incentives; and,
- Information disclosures, e.g., how the public and markets respond to publicizing institutions' environmental behavior.

Protecting the environment depends not only on understanding the health and ecological effects of environmental change, but also human and organizational environmental behavior. EDS—the agency's only extramural economics research program—is designed to meet this critical need. Since its inception, the EDS program has produced dozens of published, peer-reviewed articles that have contributed to the field of environmental decision making and been used in crafting State and Federal environmental policies. (R&D Criteria: Quality) For example, EPA's agency-wide guidelines for cost-benefit analyses cite 10 peer-reviewed, academic articles sponsored by the EDS program.[2]To ensure high-priority research, the EDS program relies on EPA's internally-

[1] For more information, visit: <http://es.epa.gov/ncer/science/economics>
[2] EPA, Office of the Administrator, *Guidelines for Preparing Economic Analyses, (Washington: EPA, 2000).* Available on the Internet at: <http://yosemite.epa.gov/ee/epa/eed.nsf/webpages/Guidelines.html/$file/Guidelines.pdf>

developed Environmental Economics Research Strategy (EERS),[3] which was reviewed by independent experts.[4] A new Multi-Year Plan that reflects the priorities identified in the recently-released EERS is scheduled for completion in the first half of 2005. In the interim, research is guided by EPA's current environmental economics Multi-Year Plan.[5] The EDS program coordinates with other agencies such as NSF's Directorate for Social, Behavioral and Economic Sciences (SBE),[6] USDA's Economic Research Service (ERS),[7] DOJ's National Institute of Justice,[8] NIH, and DHS's Science & Technology Directorate.[9] (R&D Criteria: Relevance)

FY 2006 Activities and Performance Highlights

In FY 2006, the program will support research on environmental economic priorities and research gaps identified by program offices, evaluate research tools, and serve the Agency's strategic research needs as identified by Agency programs in EPA's Environmental Economics Research Strategy (EERS). Projects will include efforts to promote interdisciplinary research that integrates the risk sciences and economics disciplines, so that the Agency can develop more complete measures of the economic benefits of environmental improvements. The Agency will support the collection of data that serves the Agency's and external community's research needs, and promote the communication and dissemination of the Agency's research findings.

In FY 2006, EDS research will be conducted using a new approach to applied research funding at EPA. This arrangement, based on the existing collaborative framework between the media and research offices, will help to ensure continued relevance and quality of applied research at EPA. This program project contains funds that will be provided to EPA's Office of Policy, Economics and Innovation to use fee-for-service arrangements in order to obtain additional research from the Office of Research and Development focusing on the Agency's highest priority environmental economic research and analysis needs.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- (-$158.3) Reduction in EDS extramural research as EPA transitions to new funding arrangement with the Policy, Economic and Innovation program.

- Includes increases for payroll and cost of living for existing FTE.

Statutory Authority

CAA; CWA; PPA; RCRA; SDWA; SARA; TSCA

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[3] EPA, *Environmental Economic Research Strategy, (Washington: EPA, 2004).* The 2003 SAB review draft is available on the Internet at: <http://www.epa.gov/ord/htm/documents/EERS-06052003.pdf>

[4] EPA, Science Advisory Board, Advisory Panel on the Environmental Economics Research Strategy, *Review of the Environmental Economics Research Strategy of the U.S. Environmental Protection Agency (Washington: EPA, 2004).* Available on the Internet at: <http://www.epa.gov/sab/pdf/sab_04007.pdf>

[5] EPA, Office of Research and Development, *Draft Economic, Social, and Behavioral Science Research Program Multi-Year Plan (Washington: EPA, 2001).*

[6] For more information, visit: <http://www.nsf.gov/sbe>

[7] For more information, visit: <http://www.ers.usda.gov>

[8] For more information, visit: <http://www.ojp.usdoj.gov/nij>

[9] For more information, visit: <http://www.dhs.gov/dhspublic/display?theme=53>

Goal: Healthy Communities and Ecosystems
Objective(s): Enhance Science and Research

Total Request for Appropriation S&T: $8,326.8 (Dollars in Thousands)

Research: Fellowships (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Science & Technology	***$2,183.3***	***$8,261.6***	***$8,326.8***	***$65.2***
Total Budget Authority / Obligations	$2,183.3	$8,261.6	$8,326.8	$65.2
Total Workyears*	0.5	2.5	2.8	0.3

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

To ensure an educated and trained scientific workforce for the future, EPA offers four fellowship programs that encourage promising students to obtain advanced degrees and pursue careers in environmentally related fields. EPA is the only federal agency that provides higher education assistance and career development in the environmental sciences. (R&D Criteria: Relevance) Fellowships are awarded through a competitive, merit-based process that incorporates external review. (R&D Criteria: Quality) EPA's fellowship programs have awarded cumulatively over 1,200 fellowships and produced highly-praised, student-driven research in fields such as forest ecology, entomology, evolutionary biology, and nanotechnology.

- *Science to Achieve Results (STAR) Fellowship Program*:[1] EPA provides stipends, tuition assistance, and research support to graduate students in environmentally-related fields for up to three years.

- *Greater Research Opportunities (GRO) Fellowship Program*:[1] EPA provides stipends, tuition assistance, and research support to undergraduate and graduate students in environmentally-related fields for up to two (undergraduate) or three (graduate) years. `The GRO program serves higher education institutions that receive less than $50 million annually in federal science and engineering funds[2] to create opportunities for minorities and less-privileged students.

[1] For more information, visit: <http://es.epa.gov/ncer/fellow>
[2] As determined by the National Science Foundation. NSF, *Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions: Fiscal Year 2001 (Arlington: NSF, 2003), 65-89.* Available on the Internet at: <http://www.nsf.gov/sbe/srs/nsf03326>

- *Environmental Science and Technology (EST) Fellowship Program*:[3] In conjunction with the American Association for the Advancement of Science (AAAS), EPA hosts post-doctoral students for up to two years at EPA headquarters. Fellows work independently with support from staff mentors on projects of their own design that advance the use of science in decision making.

- *Environmental Public Health (EPH) Fellowship Program*:[4] In conjunction with the Association of Schools of Public Health (ASPH), EPA places graduates from public health programs in its research laboratories and centers for up to two years to conduct projects that relate to EPA's public health mission.

FY 2006 Activities and Performance Highlights

In FY 2006, EPA will award new STAR, GRO, EST, and EPH fellowships and support the second and third years of fellows initially funded in FYs 2004 and 2005. Applicants to the programs will be encouraged to choose research projects that contribute to the Agency's research priorities. (R&D Criteria: Relevance) Fellowship recipients will complete progress and exit reports. STAR and GRO fellows will also agree to maintain contact with the Agency for at least five years after graduation.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- There are additional increases for payroll and cost of living for existing FTE.

Statutory Authority

CAA; CWA; FIFRA; NCA; RCRA; SDWA; TSCA

[3] For more information, visit: <http://fellowships.aaas.org/environmental>
[4] For more information, visit: <http://www.asph.org/document.cfm?page=751&JobProg_ID=1>

Goal: Healthy Communities and Ecosystems
Objective(s): Enhance Science and Research

Total Request for Appropriation S&T: $20,534.4 (Dollars in Thousands)

Research: Global Change (S&T)
(Dollars in Thousands)

	FY 2004 Obligations	FY 2005 Pres. Bud.	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Science & Technology	***$16,791.9***	***$20,689.6***	***$20,534.4***	***($155.2)***
Total Budget Authority / Obligations	$16,791.9	$20,689.6	$20,534.4	($155.2)
Total Workyears*	39.4	41.8	36.8	-5.0

*Agency Authorized FTE levels are being aligned with actual utilization. See overview section.

Program Project Description

EPA's Global Change Research Program is focused on understanding the potential consequences of global change on human health, ecosystems, and social well-being in the United States. The goal of the program is to produce information that can be readily used by policymakers to understand the various potential impacts of global change and to formulate strategies to effectively respond to the risks and opportunities presented by global change. For example, the program has worked with the International Joint Commission's Water Quality Board (IJC) and Environment Canada to identify the potential impacts of global change on the Great Lakes Basin and provide insight on what can be done to adapt to these changes.

FY 2006 Activities and Performance Highlights

EPA's Global Change Research Program activities have been coordinated with the Climate Change Science Program (CCSP) in a manner that is consistent with the CCSP Strategic Plan[1] (R&D Criteria: Relevance). In FY 2006, the Research Program will concentrate on the potential effects of global change on air quality and aquatic ecosystems and, to a lesser extent, on water quality and human health. The primary focus of FY 2006 activities will be on ecosystems, including the development of tools to build the capacity to assess and respond to global change impacts on coastal ecosystems. Tools are being developed to facilitate the evaluation of interactions of changes in temperature, UV radiation, water quality, and land-based human activities with coral reefs in the Florida Keys and elsewhere. Coral ecosystems are expected to react to global change before other, less sensitive ecosystems.

[1] Climate Change Science Program and the Subcommittee on Global Change Research. *Strategic Plan for the U.S. Climate Change Science Program.* Available on the Internet: <http://www.climatescience.gov/Library/stratplan2003/final/ccspstratplan2003-all.pdf

In consultation with the CCSP, the Agency will realign its programs to provide tools that can be used by State and local decision-makers to evaluate options for adapting to climate change. Additional efforts in FY 2006 include ongoing air quality research and assessment activities. FY 2006 activities related to water quality will include preliminary work on the potential impacts of global change on combined sewer overflows and on the operations and management of publicly-operated treatment works.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- (+$594.0) This increase will support new research efforts to develop tools that can be used by State and local decision-makers to evaluate options for adapting to climate change. These new efforts were identified as high priority because they support CCSP synthesis products scheduled for completion within the next two years.

- (-$594.0) Resources supporting research on future year estimates of air emissions from the transportation and energy sectors will be redirected within EPA's global change research program to support higher priority efforts to develop tools that can be used by State and local decision-makers to evaluate options for adapting to climate change.

- (-$339.9, -3.3 FTE) This reduction is in accordance with the Agency workforce adjustment described in the overview section. This represents a reduction to the total number of job positions, but not to actual FTE levels.

- There are increases for payroll and cost of living for existing FTE.

Statutory Authority

USGCRA; NCPA

Goal: Clean Air and Global Climate Change
Objective(s): Enhance Science and Research

Total Request for Appropriation S&T: $71,451.5 (Dollars in Thousands)

Research: NAAQS (S&T)
(Dollars in Thousands)

	FY 2004 Obligations**	FY 2005 Pres. Bud.**	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Science & Technology	***$68,617.8***	***$68,591.7***	***$71,451.5***	***$2,859.8***
Total Budget Authority / Obligations	$68,617.8	$68,591.7	$71,451.5	$2,859.8
Total Workyears*	179.0	198.2	190.3	-7.9

* Agency Authorized FTE levels are being aligned with actual utilization. See overview section.
** Resources under this Program Project were formerly captured under the Particulate Matter and Tropospheric Ozone Program Projects. The combined request of these Program Projects in FY 2005 was $68.6M and 198.2 FTE. The FY 2004 obligation levels are estimates.

Program Project Description

This research provides the scientific basis to support implementation and review of the National Ambient Air Quality Standards (NAAQS)[1] for particulate matter (PM), tropospheric ozone, carbon monoxide, sulfur dioxide, nitrogen oxides, and lead. Development and revision of Air Quality Criteria Documents (AQCDs) is conducted and discussed under the Human Health Risk Assessment Program/Project. NAAQS research focuses on particulate matter, and includes research on the other NAAQS pollutants on an "as needed" basis.

FY 2006 Activities and Performance Highlights

The Tropospheric Ozone and PM Research Program Projects will combine to form the NAAQS Research program in order to allow for better integration and coordination of the research. EPA's PM research portfolio is aligned with the ten priority research topics for PM identified by the National Research Council (NRC)[2] (R&D Criteria: Quality).

In FY 2006, PM research will focus on a subset of the ten NRC research topics, including: 1) differentiating between the health effects of PM and the health effects of other air pollutants; 2) identifying the health effects and biological mechanisms of PM sizes and constituents (e.g., sulfates, nitrates, organic and elemental carbon, and metals); 3) understanding the quantitative

[1] For more information on EPA's programs to reduce NAAQS pollutants, see http://www.epa.gov/ord/htm/air.htm
[2] For the latest report, see National Research Council. (2001) Research Priorities for Airborne Particulate Matter. III. Early Research Progress. Washington, DC: National Academy Press. Available on the internet: http://www.nap.edu/books/0309073375/html/ (6/4/03).

relationship between exposure to different particles and various health effects; and, 4) understanding human exposures to PM constituents and sources of PM. Additional research efforts will support implementation of the PM NAAQS. This research will include improving estimates of source emissions, advancements in air quality models including improved atmospheric chemistry and meteorology, improved ambient monitoring methods, and studies to evaluate and validate emissions inventories and air quality models. The new PM Research Centers, which will initiate work in FY 2006, will support research that contributes to all of these areas. Consistent with recommendations of EPA's Science Advisory Board, the Agency will augment research to improve understanding of the health effects of exposures to PM constituents and sources.

In FY 2006, additional NAAQS research will be accomplished using a new approach to applied research funding at EPA. This arrangement, based on the existing collaborative framework between the media and research offices, will help to ensure continued relevance and quality of applied research at EPA. This program project contains funds that will be provided to the Office of Air and Radiation to use a fee-for-service arrangement with the Office of Research and Development to obtain additional research focusing on the Agency's highest priority NAAQS research needs.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- (+$3,600.0) Under a new approach to applied research funding at EPA, these funds will be provided to the Office of Air and Radiation to obtain research focusing on the Agency's highest priority air toxics research needs., In FY 2006, this research will support direction provided by the NRC, the Agency's Science Advisory Board and the Clean Air Science Advisory Committee, to support an enhanced air quality management system by: identifying the most significant exposures, risks and uncertainties; addressing the most significant exposures and risks; and, using an airshed-bases approach with a focus on performance. Research will support implementation of the NAAQS standards and identifying what emissions to best reduce and how to monitor progress toward meeting the new standards.

- (+$405.0, +3.0 FTE) The Agency will redirect resources from sustainability research in Goal 5 in order to enhance PM implementation-related risk management research addressing the health implications of PM emissions from specific source categories, consistent with recommendations from EPA's Science Advisory Board.

- (-$1,547.0) This redirection from NAAQS research will support the Advanced Monitoring Initiative (AMI) in Goal 4. Work to develop tools to implement the NAAQS for tropospheric ozone will be discontinued, including work to elucidate atmospheric processes and atmospheric chemistry for tropospheric ozone, measure ozone precursors, identify the relative source contribution of ozone, and work to develop improved emissions models.

- (-$968.2, -9.4 FTE) This reduction is in accordance with the Agency workforce adjustment described in the overview section. This represents a reduction to the total number of job positions, but not to actual FTE levels.

- (-$250.0) This realignment to Computational Toxicology research in Goal 4 will further the development of rapid screening and prioritization approaches for hazardous pollutants. The resources, which were associated with research to better understand the health effects of short-term exposures to PM through the development of in-vitro methods and genomic/proteomic approaches, will support research cutting across programmatic goals of the Computational Toxicology and PM research programs, which will result in more rapid development of these tools.

- There are additional increases for payroll, cost of living for existing FTE.

Statutory Authority

CAA

Goal: Compliance and Environmental Stewardship
Objective(s): Enhance Science and Research

Total Request for Appropriation S&T: $23,187.8 (Dollars in Thousands)

Research: Sustainability (S&T)
(Dollars in Thousands)

	FY 2004 Obligations**	FY 2005 Pres. Bud.**	FY 2006 Request	FY 2006 Request v. FY 2005 Pres. Bud.
Science & Technology	***$46,609.6***	***$30,991.9***	***$23,187.8***	***-$7,804.1***
Superfund	$593.0	$593.0	$0.0	-$593.0
Total Budget Authority / Obligations	$47,202.6	$$31,584.9	$23,187.8	-$8,971.1
Total Workyears*	121.6	126.2	77.2	-49.0

* Agency Authorized FTE levels are being aligned with actual utilization. See overview section.
** Resources under this Program Project were formerly captured under the Research: Pollution Prevention Program Project. The FY 2005 resources represent the Sustainability (S&T) portion of the FY 05 Research: Pollution Prevention Program Project request. In the FY 2005 request, the Sustainability (S&T) portion of the Pollution Prevention Program Project was $31.0M and 126.2 FTE. The FY 2004 obligation levels are estimates.

Program Project Description

In addition to researching human health and environmental threats, EPA is committed to promoting sustainability—achieving economic prosperity while protecting natural systems and quality of life. Specific sustainability research areas include:

- *Pollution Prevention Tools*:[1] This research creates tools that the public and private sectors use to improve environmental decision making.
- *Small Business Innovation Research (SBIR) Program*:[2] As required by the Small Business Act as amended,[3] EPA sets aside 2.5% of its external research budget for contracts to small businesses to develop and commercialize new environmental technologies.
- *Cleaner Chemistry and Technology (CC&T)*:[4] CC&T research develops chemicals and manufacturing processes that are environmentally preferable to current industrial practices, which prevent pollution before it occurs.
- *National Environmental Technology Competition (NETC)*:[5] The People, Prosperity, and the Planet (P^3) Award[6] is a student competition to develop solutions to sustainability

[1] For more information, visit: <http://www.epa.gov/ord/NRMRL/std/sab>
[2] For more information, visit: <http://es.epa.gov/ncer/sbir>
[3] U.S. Public Law 219. 79th Congress, 2nd session, 22 July 1982. *Small Business Innovation Development Act of 1982.* More information is available on the Internet at: <http://thomas.loc.gov/cgi-bin/bdquery/z?d097:s.881:>
[4] For more information, visit: <http://www.epa.gov/ord/NRMRL/std/cppb>
[5] For more information, visit: <http://www.epa.gov/etop/netc>

challenges. The Collaborative Science and Technology Network for Sustainability (CNS) is a competitive grants program that funds regional projects that address a stated problem or opportunity relating to sustainability.

- *Sustainable Environmental Systems (SES)*:[7] The SES program develops methodologies for understanding and managing large, complex environmental systems such as metropolitan areas and watersheds.

EPA is drafting a new sustainability research strategy and Multi-Year Plan. In the interim, research will be guided by the agency's pollution prevention Research Strategy[8] and draft Multi-Year Plan.[9] (R&D Criteria: Relevance)

FY 2006 Activities and Performance Highlights

Pollution prevention tools research in FY 2006 will include continuing work on life cycle assessment, i.e., identifying the environmental implications of a material or process from cradle to grave; developing computer software that can assess the environmental impacts of policy options or manufacturing methods; and integrating individual environmental management methods into more complete decision tools.

In FY 2006, the SBIR program will award contracts that address the needs of EPA's Water program and Regional offices. CC&T research will develop safer substitute chemicals and chemical syntheses, make catalyses more efficient so that lower quantities of chemicals are needed, and enhance computational chemistry. The CC&T program will also study polymers produced from biological feedstocks and environmentally benign coatings.

In FY 2006, CNS will partner with academics, nonprofits, communities, and states to fund projects that address sustainability problems or opportunities while involving decision makers. These projects will consider economic, social, and environmental priorities in the context of a system, such as an ecosystem, watershed, industrial network, or the urban environment. Finally, the SES program will complete a survey of methods for combining economic, ecological, hydrological, and legal approaches to managing and restoring watersheds.

FY 2006 Change from FY 2005 President's Budget (Dollars in Thousands)

- (-$3,000.0, -10.0 FTE) Support for the NETC program, as well as pollution prevention and clean chemistry research will be reduced to fund other Agency priorities. NETC will alternate grants each year between the P^3 sustainability competition and CNS. The decrease to pollution prevention and clean chemistry research will affect activities such as software

[6] For more information, visit: <http://es.epa.gov/ncer/p3>
[7] For more information, visit: <http://www.epa.gov/ord/NRMRL/std/seb>
[8] EPA, Office of Research and Development, *Pollution Prevention Research Strategy (Washington: EPA, 1998).* Available on the Internet at: <http://www.epa.gov/ord/htm/documents/p2.pdf>
[9] EPA, Office of Research and Development, *Draft Pollution Prevention and New Technologies for Environmental Protection Multi-Year Plan (Washington: EPA, 2003).*

and technology development. Redirected workyears will support research concerning homeland security, safe communities, drinking water, water quality, mercury, the Research Conservation and Recovery Act (RCRA), and National Ambient Air Quality Standards (NAAQS).

- (-$2,835.0, -21.1 FTE) Realignment of workyears and associated workforce costs to support research in the areas of NAAQS, land restoration and preservation, human health, mercury, biotechnology, and computational toxicology. This reduction will affect clean chemistry research, such as delaying identification of antimicrobial solutions to biological building contaminants.

- (-$2,802.9, -3.0 FTE) Under a new approach to applied research funding at EPA, funds will be provided to the Office of Policy, Economics, and Innovation (OPEI) to use a fee-for-service arrangement with the Office of Research and Development to obtain research focusing on the Agency's highest priority EDS research needs. In FY 2006, EDS workyears and associated resources will appear in the *Research: Economics and Decision Sciences* program project. In collaboration with OPEI, research will continue on topics such as estimating the value of environmental and public health improvements; corporate environmental behavior; improving cost-benefit analyses; and evaluating the effectiveness of market mechanisms, incentives, and information disclosures.

- (-$1,404.0, -10.4 FTE) Realignment of workyears to support efforts in areas such as homeland security, Integrated Risk Information System (IRIS), and computational toxicology.

- (-$661.5, -4.9 FTE) Reallocation of program support workyears to more accurately support Agency priorities.

- There are additional increases for payroll and cost of living for existing FTE.

Statutory Authority

CAA; CWA; FIFRA; PPA; RCRA; SDWA; SBA; SARA; TSCA

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