

Science Program Direction

Program Mission

The mission of Science Program Direction (SCPD) is to provide a Federal workforce, skilled and highly motivated, to manage and support a broad set of scientific disciplines, research portfolio, programs, projects, and facilities under the Office of Science's (SC) leadership.

SCPD consists of four subprograms: Program Direction, Field Operations, Technical Information Management (TIM) and Energy Research Analyses (ERA). Beginning in FY 2003, Program Direction and Field Operations were realigned to include all functions performed in the SC Field complex in the Field Operations subprogram. With this change, the Program Direction subprogram continues to be the single funding source for the SC Federal staff in Headquarters responsible for directing, administering, and supporting the broad spectrum of SC scientific disciplines. The Field Operations subprogram is the centralized funding source for the Federal workforce within the field complex responsible for providing best-in-class business, administrative, and specialized technical support across the entire SC enterprise and to other DOE programs. The TIM subprogram collects, preserves, and disseminates the scientific and technical information (STI) of the DOE for use by the DOE, the scientific community, academia, U.S. industry, and the public to expand the knowledge base of science and technology. The ERA subprogram provides the capabilities needed to evaluate and communicate the scientific excellence, relevance, and performance of SC basic research programs, provide analysis of key scientific and technical issues, and document the societal outcomes of SC research.

Significant Program Shifts

- Beginning in FY 2002, and continuing into FY 2004, SC is conducting an organizational and workforce restructuring project to address fundamental issues and functions within the Office. The Office of Science (SC) Restructuring Project will realign its Headquarters and Field structure and streamline and improve the management and implementation of its programs by reducing layers of management, streamlining decision making processes, clarifying lines of authority, and making more efficient use of resources. This project reflects the changes envisioned by the President's Management Agenda (PMA) and directly supports the PMA objective to manage government programs more economically and effectively. Full implementation of the SC realignment is expected to take place during FY 2004.
- During the on-going restructuring, SC will continue to work toward rightsizing the number of full-time equivalents (FTEs) by the end of FY 2005. The FY 2003 President's Budget Request for SC Program Direction proposed to reduce the number of FTEs from 1,045 in FY 2002 to 840 in FY 2003, with corresponding reductions in program direction funding. However, the workforce restructuring project was not completed, and a reduction of this magnitude (20 percent) would have resulted in involuntary reductions-in-force (IRIFs), and substantial reduction in SC's ability to carry out its mission. In order to avoid IRIFs, SC utilized uncosted funding in the amount of \$6,999,000 and delayed certain activities to offset the funding shortage in FY 2003. SC had further planned to use buyout authority to voluntarily reduce staffing, but this authority was not granted to the Department, and it was therefore necessary to revise the number of FY 2003 FTEs from 840 to 965. The FY 2004 request is also based on 965 FTEs to permit continued support for current staff (and to fill critical scientific positions), while allowing the restructuring project to be completed in FY 2004.

The restructuring will result in more informed decisions on the number of FTEs and types of position required to fulfill SC's programmatic and administration responsibilities.

- In FY 2003, the House Energy and Water Development (EWD) Appropriations Subcommittee proposed transferring TIM (from the Energy Supply appropriation) and ERA into SCPD as new subprograms. Since TIM is currently managed by SC, this transfer of funding from the Energy Supply appropriation aligns all SC program resources under the Science appropriation.
- In order to provide enhanced emphasis on education activities, Science Education, a former subprogram within SCPD, is budgeted in the newly established Workforce Development for Teachers and Scientists program, beginning in FY 2004.

Funding Profile

(dollars in thousands)

	FY 2002 Comparable Appropriation	FY 2003 Request	FY 2004 Request	\$ Change	% Change
Science Program Direction					
Program Direction.....	51,345	55,984	58,217	+2,233	+4.0%
Science Education.....	0	0	0	0	--
Field Operations	89,591	72,403	83,802	+11,399	+15.7%
Technical Information					
Management.....	7,563	7,925	7,774	-151	-1.9%
Energy Research Analyses	968	1,020	1,020	0	--
Total, Science Program Direction	149,467 ^{ab}	137,332 ^{abc}	150,813	+13,481	+9.8%
Additional net budget authority to cover the cost of fully accruing retirement (non-add)					
	(7,479)	(6,060)	(6,567)	(+507)	(+8.4%)
Staffing (FTEs)					
Headquarters (FTEs).....	261	284	284	0	--
Field Operations (FTEs)	591	609	609	0	--
Technical Information					
Management (FTEs).....	75	72	72	0	--
Total, FTEs.....	927 ^d	965 ^d	965	0	--

Public Law Authorization:

Public Law 95-91, "Department of Energy Organization Act"

Public Law 103-62, "Government Performance and Results Act of 1993"

^a Includes TIM and ERA as proposed by the House EWD Appropriations Subcommittee to be effective in FY 2003.

^b Excludes \$4,460,000 in FY 2002 and \$5,460,000 in FY 2003 for Science Education transferred to new Workforce Development for Teachers and Scientists program in FY 2004.

^c In order to avoid IRIFs, SC utilized uncosted funding in the amount of \$6,999,000 and delayed certain activities to offset the funding shortage in FY 2003.

^d Revised estimate based on reprioritization of FY 2002 and FY 2003 activity to avoid IRIFs in both fiscal years. Also includes transfer of 72 FTEs for Technical Information Management (TIM) effective in FY 2003 consistent with the House EWD Subcommittee proposal. The FY 2002 Comparable Appropriation in the FY 2003 President's Request was 1,045 FTEs (293 FTEs in Headquarters, 676 FTEs in the Field, and 76 FTEs for TIM). The FY 2003 President's Request was 840 FTEs (299 FTEs in Headquarters, 467 FTEs in the Field, and 74 for TIM).

Funding by Site

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
Albuquerque Operations Office^a					
Sandia National Laboratory/Albuquerque	155	100	100	0	--
Chicago Operations Office					
Chicago Operations Office	36,148	28,035	34,056	+6,021	+21.5%
Oak Ridge Operations Office					
Oak Ridge National Laboratory	60	0	0	0	--
Oak Ridge Institute for Science and Education.	24	55	55	0	--
Office of Scientific and Technical Information....	7,563	7,925	7,774	-151	-1.9%
Oak Ridge Operations Office	50,756	41,817	47,225	+5,408	+12.9%
Total, Oak Ridge Operations Office	58,403	49,797	55,054	+5,257	+10.6%
Oakland Operations Office^a					
Lawrence Berkeley National Laboratory	0	50	50	0	--
Berkeley and Stanford Site Offices	3,000	2,861	2,831	-30	-1.0%
Total, Oakland Operations Office.....	3,000	2,911	2,881	-30	-1.0%
Richland Operations Office					
Pacific Northwest National Laboratory	414	465	465	0	--
Washington Headquarters	51,347	56,024	58,257	+2,233	+4.0%
Total, Science Program Direction	149,467^{bc}	137,332^{bc}	150,813	+13,481	+9.8%
Additional net budget authority to cover the cost of fully accruing retirement (non-add)	(7,479)	(6,060)	(6,567)	(+507)	(+8.4%)

^a On December 20, 2002, the National Nuclear Security Administration (NNSA) disestablished the Albuquerque, Oakland, and Nevada Operations Offices, renamed existing area offices as site offices, established a new Nevada Site Office, and established a single NNSA Service Center to be located in Albuquerque. Other aspects of the NNSA organizational changes will be phased in and consolidation of the Service Center in Albuquerque will be completed by September 30, 2004. For budget display purposes, DOE is displaying non-NNSA budgets by site in the traditional pre-NNSA organizational format.

^b Includes TIM and ERA as proposed by the House EWD Appropriations Subcommittee to be effective in FY 2003.

^c Excludes \$4,460,000 in FY 2002 and \$5,460,000 in FY 2003 for Science Education transferred to new Workforce Development for Teachers and Scientists program in FY 2004.

Site Description

Berkeley Site Office

The Berkeley Site Office provides institutional program management oversight in the execution of science programs contracted through Lawrence Berkeley National Laboratory (LBNL). LBNL is a multi-program laboratory located in Berkeley, California on a 200-acre site adjacent to the University of California campus. This activity contributes to ERA's formulation of long-term and strategic plans.

Chicago Operations Office

Chicago supports the programmatic missions performed in support of science and technology, national security, energy research, and environmental management. They are responsible for administering grants to universities as determined by the DOE sponsoring Program Offices, including non-SC offices, in addition to centrally providing administrative and specialized technical support (i.e., legal advice, personnel management, procurement services, etc.) to the Site Offices responsible for program management oversight for the five major management and operating laboratories--Argonne National Laboratory, Brookhaven National Laboratory, Fermi National Accelerator Laboratory, Princeton Plasma Physics Laboratory, and Ames Laboratory; and two government-owned and government-operated Federal laboratories--Environmental Measurements Laboratory and New Brunswick Laboratory.

Lawrence Berkeley National Laboratory

Lawrence Berkeley National Laboratory (LBNL) is a Multiprogram Laboratory located in Berkeley, California. The Laboratory is on a 200-acre site adjacent to the Berkeley campus of the University of California.

Oak Ridge Operations Office

Oak Ridge supports almost every major Departmental mission in science, energy resources, and environmental quality. They are responsible for grants administration to universities as determined by the sponsoring Program Offices in addition to centralized administrative and specialized technical support (i.e., legal advice, personnel management, procurement services, etc.) to the Oak Ridge National Laboratory and Thomas Jefferson National Accelerator Facility Site Offices.

Oak Ridge Institute for Science and Education

Oak Ridge Institute for Science and Education (ORISE) is located on 150 acres in Oak Ridge, Tennessee. ORISE facilitates and coordinates communication and outreach activities, and conducts studies on workforce trends in the sciences.

Oak Ridge National Laboratory

Oak Ridge National Laboratory (ORNL) is a multiprogram laboratory located on a 24,000 acre site in Oak Ridge, Tennessee. ORNL carries out research in the area of retrospective analysis of research outcomes. This activity includes expert assessment of program impacts on other areas of research and the development of research tools.

Office of Scientific and Technical Information

The Office of Scientific and Technical Information (OSTI) is located on a 7-acre site in Oak Ridge, Tennessee. The OSTI facility is a 132,000 square foot secure, fire-protected, humidity-controlled building housing federal and contractor staff and over 1.2 million classified and unclassified documents. The physical facility is approximately 50 years old and is in need of large-scale capital improvements to ensure the safety and health of its occupants and to protect its contents. The large collection represents a critical component of the mission of the TIM subprogram, which is to lead DOE e-government initiatives for disseminating information resulting from the Department's multi-billion annual research and development (R&D) program. This information is the primary deliverable from DOE's \$8 billion annual R&D expenditure as reported in technical reports, scientific journal articles, and preprints.

Pacific Northwest National Laboratory

Pacific Northwest National Laboratory (PNNL) is a multi-program laboratory located on a 640-acre site at the Department's Hanford site in Richland, Washington. PNNL carries out research in the areas of portfolio and economic analysis to contribute to the ERA formulation of long-term plans and science policy. This activity includes assessments of trends in R&D and the development of science management tools for R&D portfolio and outcome analyses. PNNL also provides expert assistance in state-of-the-art science communications.

Sandia National Laboratories

Sandia National Laboratories (SNL) is a multi-program laboratory, with a total of 3,700 acres, located in Albuquerque, New Mexico, with sites in Livermore, California, and Tonopah, Nevada. SNL carries out research in the areas of technical program planning and merit review practices to contribute to the ERA formulation of best practices for long term plans, science policy and peer reviews. This activity includes assessments of best practices in R&D organizations.

Stanford Site Office

The Stanford Site Office provides institutional program management oversight in the execution of basic research at the Stanford Linear Accelerator Center, a laboratory operated under a contract with Stanford University.

Program Direction

Mission Supporting Goals and Measures

The Program Direction subprogram funds all of the SC Federal staff in Headquarters responsible for directing, administering, and supporting the broad spectrum of scientific disciplines. These disciplines include High Energy Physics, Nuclear Physics, Basic Energy Sciences, Biological and Environmental Research, Fusion Energy Sciences, and Advanced Scientific Computing Research programs. Additionally, this subprogram supports management, human resources, policy, and technical and administrative support staff responsible for budget and finance; general administration; grants and contracts; information technology; policy review and coordination; infrastructure management; construction management; safeguards and security; and environment, safety and health. By supporting its Federal workforce, SC is able to successfully administer major Federal science programs and projects and facilities across the nation in a safe, secure, and efficient manner.

Accomplishments

- Achieved technical excellence in SC programs despite managing one of the largest, most diversified, and complex basic research portfolios in the Federal Government with a relatively small Federal and contractor support staff.
- Established a Workforce Restructuring Project that will realign the SC Headquarters and Field structure to streamline and improve the management and implementation of programs by reducing layers of management, streamlining decision-making processes, clarifying lines of authority, and utilizing resources more efficiently throughout SC and its Field sites. The changes planned are consistent with both the President's Management Agenda and SC's Business Vision. The Restructuring Project will determine staffing needs throughout the SC complex prior to the end of FY 2004.
- Clarify program, project management, and operational roles and responsibilities to achieve an organization that is stronger in scientific, technical and project management skills, and leaner and more integrated in administrative and support functions.
- Completed the Laboratory Best Practices Study in December 2001. Significant recommendations included simplifying line management accountability, replacing transactional oversight with performance-based management, use of external standards where possible, use of bilateral decision process for directives, and reflecting such changes in contractual language with the laboratories.
- Established a working group, in response to the challenge by the Under Secretary, to develop the principles and guidelines for a new SC contract for the SC multi-program laboratories. The guidelines should lay the groundwork for a streamlined oversight approach that builds trust and accountability, enables the contractors to make sound business decisions, and perform excellent R&D work in the most cost effective and efficient manner, with minimal risk and environmental impact.

Subprogram Goals

Implement comprehensive Human Capital Management initiatives consistent with an SC-wide workforce reengineering, restructuring and succession planning effort. Expand and integrate E:Government/Commerce and Electronic Procurement activities into the SC business systems and processes. Implement a corporate-wide information technology initiative that enables the DOE to effectively manage a broad R&D portfolio.

Performance Indicators

Increased employee/supervisor ratios from FY 2002 levels and elimination of senior level management/organization layer(s). Increased use of electronic technology business applications and the number of research proposals received electronically. Increased receipt and use of electronic information and data on R&D programs and projects by and for multiple users, e.g., DOE program/project managers, national laboratories, universities and private industry.

Annual Performance Results and Targets

FY 2002 Results	FY 2003 Targets	FY 2004 Targets
<p>Initiated program planning on an SC wide workforce restructuring and reengineering effort.</p> <p>Advertised all recruit actions for scientific and technical positions via the automated DOE Jobs Online.</p> <p>Simplified SC position descriptions reducing administrative burden/processing time for position classification.</p> <p>Implemented (1) WorkSheet Exchange system that provides the ability to electronically update the SC corporate financial database with formulation data; (2) an Abstract Tracking system that collects, manages, and publishes abstracts on-line; and (3) 26 enhancements to the Execution Work Management system that supports the grants and Field work proposal process.</p> <p>Identified streamlined processes and high-level requirements for the receipt and management of annual Field budget information for R&D through business process reengineering.</p> <p>Defined requirements to receive new research project information electronically through the DOE integrated electronic procurement system.</p>	<p>Eliminate at least one layer of senior level management and clarify lines of authority, communication and programmatic responsibilities.</p> <p>Implement a system that manages SC's concurrence processes and supports records and document management.</p> <p>Electronically receive (1) 50% of all DOE Field budget information for on-going R&D projects and (2) 80% of all new research project information through the DOE integrated electronic procurement system.</p> <p>Identify streamlined processes and requirements for the tracking and reporting of information for R&D through business process reengineering.</p>	<p>Implement workforce restructuring and reengineering actions and assess the implementation effectiveness. Adjust actions as necessary to ensure organizational and work process changes are in place (e.g., organizational/structural realignment, workforce restructuring).</p> <p>Implement an electronic business management database and tracking application that supports the SC leadership in establishing scientific research priorities.</p> <p>Electronically receive (1) 80% of all DOE Field budget information for on-going R&D projects and (2) 100% of all new research project information through the DOE integrated electronic procurement system.</p> <p>Develop and test an electronic R&D project management and tracking database application for the DOE program managers that incorporates information from other DOE corporate systems.</p>

Funding Schedule

(dollars in thousands, whole FTEs)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
Headquarters					
Salaries and Benefits	32,769	33,851	36,077	+2,226	+6.6%
Travel.....	1,506	1,564	1,564	0	--
Support Services	10,041	10,882	11,850	+968	+8.9%
Other Related Expenses	7,029	9,687	8,726	-961	-9.9%
Total, Headquarters	51,345	55,984	58,217	+2,233	+4.0%
Additional net budget authority to cover the cost of fully accruing retirement (non-add)	(2,070)	(2,240)	(1,923)	(-317)	(-14.2%)
Full Time Equivalents.....	261 ^a	284 ^a	284	0	--

Detailed Program Justification

(dollars in thousands)

	FY 2002	FY 2003	FY 2004
Salaries and Benefits.....	32,769	33,851	36,077

This funds 284 FTEs in Headquarters during our Workforce Restructuring Project which will be completed by the end of FY 2004. The FY 2004 FTE request is consistent with the FY 2002 authorized level.

Travel	1,506	1,564	1,564
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Travel includes all costs of transportation of persons, subsistence of travelers, and incidental travel expenses in accordance with Federal travel regulations.

Support Services.....	10,041	10,882	11,850
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Provides funding for general administrative services and technical expertise provided as part of day-to-day operations, including mailroom operations; travel management; environment, safety and health (ES&H) support; security and cyber security support; and administering the Small Business Innovation Research (SBIR) program. Also provides for information technology (IT) maintenance and enhancements, including support for the e-R&D Portfolio Management, Tracking and Reporting Project.

^a Revised estimate based on reprioritization of FY 2002 and FY 2003 activity to avoid IRIFs in both fiscal years. The FY 2002 Comparable Appropriation in the FY 2003 President's Request was 293. The FY 2003 President's Request was 299 FTEs.

(dollars in thousands)

FY 2002	FY 2003	FY 2004
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The \$968,000 increase allows SC to fund additional costs (+\$550,000) for administrative and technical support service contracts due to increased work requirements, such as implementation of more stringent foreign travel procedures mandated since the September 11 terrorist attacks. Funding (+\$506,000) enables SC to develop and implement integrated business applications consistent with the President's e-government initiatives. SC promotes IT efficiencies consistent with the provisions of the Information Technology Management Reform Act of 1996 to improve how the mission is accomplished. In FY 2004, technical assistance is reduced (-\$88,000) in order to support other critical needs within the Office of Science Program Direction budget. At this level of funding the e-R&D Portfolio Management, Tracking and Reporting Project will develop and implement a system to allow for the electronic receipt of DOE laboratory proposals. Additional functionality will be delivered in future years to provide project query and reporting capabilities, and further testing and integration with other corporate IT initiatives.

Other Related Expenses **7,029** **9,687** **8,726**

Provides funds for a variety of tools, goods, and services that support the Federal workforce, including acquisitions made through the Working Capital Fund (WCF), computer and office equipment, publications, training, e-R&D Portfolio Management, Tracking and Reporting Project acquisitions, etc. The \$961,000 decrease is the result of several items: a reduction in hardware/software goods and services in support of the e-R&D Portfolio Management, Tracking and Reporting Project requirements (-\$1,470,000); the completion of the Workforce Restructuring Project by September 30, 2003, designed to identify ways to a) reduce the number of managers, organizational layers, and time needed to make decisions; b) increase the span of control; and c) redirect positions to the front lines (+478,000); supports anticipated IT efficiencies (-\$107,000); and growth in the WCF (+\$138,000).

Total, Program Direction..... **51,345** **55,984** **58,217**

Explanation of Funding Changes

FY 2004 vs. FY 2003 (\$000)

Salaries and Benefits

- Supports 284 FTEs and factors 2.4 percent pay adjustment in personnel compensation. +2,226

Support Services

- Dedicates funding to development of integrated business applications +506
- Decrease in technical support for the e-R&D Portfolio Management, Tracking and Reporting Project -88

FY 2004 vs. FY 2003 (\$000)

<ul style="list-style-type: none"> ■ Funds increased support service contract activity requirements in the areas of ES&H; safeguards and security; mail room and travel management; and SBIR (+\$550,000) 	<hr/> +550
Total, Support Services	+968
Other Related Expenses	
<ul style="list-style-type: none"> ■ Decrease in e-R&D Portfolio Management, Tracking and Reporting Project architecture acquisitions..... 	-1,470
<ul style="list-style-type: none"> ■ Reflects continuing efforts towards completion of the Workforce Restructuring Project by December 31, 2004, consistent with the President’s Management Agenda Initiatives..... 	+478
<ul style="list-style-type: none"> ■ Supports SC Headquarters IT requirements 	-107
<ul style="list-style-type: none"> ■ Fund activities provided in the WCF 	<hr/> +138
Total, Other Related Expenses	<hr/> -961
Total Funding Change, Program Direction	<hr/> <hr/> +2,233

Support Services

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
Technical Support Services					
Test and Evaluation Studies	650	700	750	+50	+7.1%
Total, Technical Support Services.....	650	700	750	+50	+7.1%
Management Support Services					
ADP Support.....	8,170	8,982	9,400	+418	+4.7%
Administrative Support	1,221	1,200	1,700	+500	+41.7%
Total, Management Support Services.....	9,391	10,182	11,100	+918	+9.0%
Total, Support Services.....	10,041	10,882	11,850	+968	+8.9%

Other Related Expenses

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
Training	96	99	99	0	--
Working Capital Fund	4,150	4,200	4,338	+138	+3.3%
Information Technology Hardware and Software/Maintenance Acquisitions.....	640	3,071	1,494	-1,577	-51.4%
Other	2,143	2,317	2,795	+478	+20.6%
Total, Other Related Expenses.....	7,029	9,687	8,726	-961	-9.9%

Field Operations

Mission Supporting Goals and Measures

The Field Operations subprogram is the centralized funding source for the SC Field Federal workforce responsible for the management and administrative functions at the Chicago and Oak Ridge Operations Offices and the Site Offices supporting SC laboratories and facilities, e.g., Ames Site Office; Argonne Site Office; Brookhaven Site Office; Fermi Site Office; Lawrence Berkeley National Laboratory Site Office; Oak Ridge National Laboratory Site Office; Princeton Plasma Physics Laboratory Site Office; Thomas Jefferson National Accelerator Facility Site Office; and Stanford Linear Accelerator Center Site Office.

This subprogram supports the Federal workforce that is responsible for SC and other DOE programmatic missions performed in support of science and technology, energy research, and environmental management, i.e., financial stewardship, personnel management, contract and procurement acquisition, labor relations, security, legal counsel, public and congressional liaison, intellectual property and patent management, environmental compliance, safety and health management, infrastructure operations maintenance, and information systems development and support.

In addition, this subprogram provides funding for the fixed requirements associated with rent, utilities, and telecommunications. Other requirements such as IT maintenance, administrative support, mail services, document classification, personnel security clearances, emergency management, printing and reproduction, travel, certification training, vehicle acquisition and maintenance, equipment, classified/unclassified data handling, records management, health care services, guard services, and facility and ground maintenance are also included. These infrastructure requirements are relatively fixed. This subprogram also supports the Inspector General operations located at each site by providing office space and materials. Other operational requirements funded include occasional contractor support to perform ecological surveys, cost validations, and environmental assessments; ensure compliance with Defense Nuclear Facilities Safety Board safety initiatives; abide by site preservation laws and regulations; and perform procurement contract closeout activities.

Accomplishments

- Completed Phase I of an electronic-based document system to electronically distribute and track documents and records. Mail handlers now use one common system to log and scan both incoming and outgoing correspondence.
- Implemented the Electronic Commerce–Web Based (EC Web) system. EC-Web is used for simplified acquisition requisitions and credit card purchases.
- Implemented the Employee Self Service feature of the Corporate Human Resources Information System. Federal employees can now view payroll, benefits, and other personal information at their desktops via Internet access.

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Funding Schedule

(dollars in thousands, whole FTEs)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
Chicago Operations Office					
Salaries and Benefits.....	26,106	24,421	27,355	+2,934	+12.0%
Travel.....	403	340	494	+154	+45.3%
Support Services	6,670	1,666	2,307	+641	+38.5%
Other Related Expenses	2,656	1,298	3,590	+2,292	+176.6%
Total, Chicago Operations Office	35,835	27,725	33,746	+6,021	+21.7%
Full Time Equivalents.....	252	267	267	0	--
Berkeley/Stanford Site Offices					
Salaries and Benefits.....	2,370	2,392	2,463	+71	+3.0%
Travel.....	60	48	48	0	--
Support Services	270	0	0	0	--
Other Related Expenses	300	421	320	-101	-24.0%
Total, Berkeley/Stanford Site Offices	3,000	2,861	2,831	-30	-1.0%
Full Time Equivalents.....	23	25	25	0	--
Oak Ridge Operations Office					
Salaries and Benefits.....	28,844	29,046	29,852	+806	+2.8%
Travel.....	479	387	395	+8	+2.1%
Support Services	12,116	8,174	11,868	+3,694	+45.2%
Other Related Expenses	9,317	4,210	5,110	+900	+21.4%
Total, Oak Ridge Operations Office	50,756	41,817	47,225	+5,408	+12.9%
Full Time Equivalents.....	316	317	317	0	--
Total Field Operations					
Salaries and Benefits.....	57,320	55,859	59,670	+3,811	+6.8%
Travel.....	942	775	937	+162	+20.9%
Support Services	19,056	9,840	14,175	+4,335	+44.1%
Other Related Expenses	12,273	5,929	9,020	+3,091	+52.1%
Total, Field Operations.....	89,591	72,403	83,802	+11,399	+15.7%
Additional net budget authority to cover the cost of fully accruing retirement (non-add)	(4,928)	(3,392)	(4,065)	(+673)	(+19.8%)
Full Time Equivalents.....	591 ^a	609 ^a	609	0	--

^a Revised estimate based on reprioritization of FY 2002 and FY 2003 activity to avoid IRIFs in both fiscal years. The FY 2002 Comparable Appropriation in the FY 2003 President's Request was 676 FTEs. The FY 2003 President's Request was 467 FTEs.

Detailed Program Justification

(dollars in thousands)

	FY 2002	FY 2003	FY 2004
Salaries and Benefits	57,320	55,859	59,670
<p>Supports 609 FTEs within the SC Field complex, 18 FTEs more than FY 2002 (591 FTEs). Past unstructured downsizing across SC has resulted in under-staffing in some areas and over-staffing in others. To address this, SC is working on a phased approach that spans multiple years. SC has initiated a Workforce Restructuring Project that will establish a direct reporting relationship between SC site offices and SC Headquarters, thus removing a layer of management currently residing in the Chicago and Oak Ridge Operations Offices. These operations offices will be transformed into one or more service centers, with redefined roles and responsibilities to provide best-in-class business, administrative, and specialized technical support across the entire SC enterprise and, as appropriate, to other DOE programs.</p>			
Travel	942	775	937
<p>Enables Field staff to participate on task teams, work various issues, conduct compliance reviews, and perform contractor oversight to ensure implementation of DOE orders and regulatory requirements at the facilities under their purview. Also provides for attendance at conferences and training classes, and permanent change of station relocation, etc.</p>			
Support Services	19,056	9,840	14,175
<p>The Field uses a variety of administrative and technical assistance services that are critical to their success in meeting local customer needs. The services provided support IT routine computer maintenance, specific improvements, operating systems upgrades, cyber security, network monitoring, firewalls, and disaster recovery tools. Other areas include staffing 24-hour emergency and communications centers, safeguarding and securing assets (protective guards, processing security clearances, classifying records, protecting assets and property, etc.), processing/distributing mail, travel management centers, contract close-out activities, copy centers, directives coordination, filing and retrieving records, etc. Requirements in FY 2003 appear artificially low because some of the requirements will be funded in FY 2003 from FY 2002 uncosted balances to avoid IRIFs in FY 2003. The funding increase from FY 2003 to FY 2004 reflects the level to which day-to-day operations are being restored in order to maintain a viable work environment.</p>			
Other Related Expenses	12,273	5,929	9,020
<p>Funds day-to-day requirements associated with operating a viable office, including fixed costs associated with occupying office space, utilities, telecommunications and other costs of doing business, e.g., postage, printing and reproduction, copier leases, site-wide health care units, records storage assessments, office equipment/furniture, building maintenance, etc. Employee training and development and the supplies and furnishings used by the Federal staff are also included. Requirements in FY 2003 appear artificially low because some of the requirements will be funded in FY 2003 from FY 2002 uncosted balances to avoid IRIFs in FY 2003. The funding increase from FY 2003 to FY 2004 reflects the level to which day-to-day operations are being restored in order to sustain a productive work environment.</p>			
Total, Field Operations	89,591	72,403	83,802

Explanation of Funding Changes

FY 2004 vs. FY 2003 (\$000)

Salaries and Benefits

- Supports 609 FTEs within the SC Field complex, 18 FTEs more than FY 2002 (591 FTEs). Also factors a 2.4 percent pay adjustment in personnel compensation ... +3,811

Travel

- Commensurate support for Federal FTEs +162

Support Services

- Restore funding for support service activities (contract closeout, mail/travel management, safeguards and security functions, etc.) funded in FY 2003 from FY 2002 uncosted balances to avoid IRIFs in FY 2003. +4,335

Other Related Expenses

- Restore funding in support of day-to-day activities such as building services and maintenance, janitorial, other supplies and materials, and systems support; i.e., the Financial Service Center processes. These activities will be funded in FY 2003 from FY 2002 uncosted balances to avoid IRIFs in FY 2003..... +3,091

Total Funding Change, Field Operations	+11,399
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Support Services

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
Technical Support Services					
Economic and Environmental Analysis.....	5,612	0	0	0	--
Total, Technical Support Services.....	5,612	0	0	0	--
Management Support Services					
ADP Support.....	6,529	4,064	4,064	0	--
Administrative Support	6,915	5,776	10,111	+4,335	+75.1%
Total, Management Support Services.....	13,444	9,840	14,175	+4,335	+44.1%
Total, Support Services.....	19,056	9,840	14,175	+4,335	+44.1%

Other Related Expenses

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
Training.....	600	65	65	0	--
Printing and Reproduction	380	250	250	0	--
Rent & Utilities & Telecommunication.....	6,536	3,495	3,395	-100	-2.9%
Information Technology Hardware, Software, and Maintenance.....	1,467	1,000	1,000	0	--
Working Capital Fund	474	500	500	0	--
Other	2,816	619	3,810	+3,191	+515.5%
Total, Other Related Expenses.....	12,273	5,929	9,020	+3,091	+52.1%

Technical Information Management

Mission Supporting Goals and Measures

R&D is the process of exploration, discovery, and sharing of the knowledge gained. Scientific progress is only possible if knowledge is shared. The Technical Information Management (TIM) subprogram is instrumental in directly performing this critical part of the R&D cycle. TIM collects the research results, maintains the information, and makes that information available to the broader scientific community to contribute to the advancement of science, thereby completing the cycle of building on knowledge previously gained and combining it with newly discovered insights. TIM assures that the scientific and technical information emanating from the myriad DOE research activities is effectively managed and disseminated per legislative mandates to benefit the nation.

DOE's missions in science and technology, national defense, energy resources, and environmental stewardship are all dependent on a strong base of R&D. DOE R&D activities are decentralized, occurring at national laboratories, in academia, and among individual contractors. TIM organizes these widely-dispersed research results into searchable sets. Using innovative information technologies, TIM makes them available to the widest possible audience in accordance with the body of legislation that dictates DOE's responsibilities to share information. In this manner, DOE is assured of having historic and current research results readily available and reusable to advance its missions; providing access to those in R&D pursuits and to the science-attentive public; and promoting and safeguarding national security interests. TIM projects and initiatives deliver the scientific knowledge emanating from DOE via cost-effective e-government information retrieval systems. These initiatives help make science information more visible and useable.

TIM Program Direction funding provides staffing and resources to both direct and execute the TIM subprogram mission. Federally-staffed functions include policy development and integration; U.S. and DOE representation in interagency and international information exchange agreements; management of safeguards and security activities; administration; personnel management; budget formulation and execution; procurement and contract management; records management; classified information program management; facility management; and collecting, preserving, organizing, and disseminating the information resulting from DOE's R&D investment, including re-engineering mission-critical systems to take full advantage of electronic information technology. As a result of the capabilities TIM uses to fulfill Department-wide responsibilities, it also provides, on a cost-reimbursable basis, specialized scientific and technical information systems or services to individual DOE Program Offices.

Accomplishments

- Progress with Information Technology and e-Government Practices: The TIM subprogram is instrumental in performing the sharing of knowledge – a critical part of the R&D cycle. Broad access, preservation, and electronic availability of this knowledge are critical. By implementing innovative information technologies, TIM has drastically changed the manner by which it does business, moving from a paper-based to an electronic work environment. As measured by the quantity of STI disseminated and the number of patrons served, TIM plays a more useful role now than in prior years. For example, in the paper environment (1995), TIM distributed 10,000 reports per year upon request; now, patrons of TIM's web-based systems are downloading 260,000 full-text reports (plus a much larger number of individual page views) per year. In 2001, TIM's web sites and e-government information systems logged nearly 6,000,000 user transactions – a 79 percent increase

over the previous year. In addition, using electronic delivery of information has resulted in a 90 percent reduction in the cost per user transaction.

- **Shift in Coverage of Journal Literature:** Unveiled in 1999, PubSCIENCE provided researchers and science-attentive citizens access via the web to bibliographic records of peer-reviewed journal literature relating to DOE-supported work. PubSCIENCE was a modern tool to fulfill a longstanding responsibility to provide access to a collection of R&D records created by or relevant to DOE researchers. PubSCIENCE effectively served its purpose, offering citations in disciplines of interest to DOE at a time when no equivalent free-for-use private sector service was available. However, in FY 2002, after analyzing the availability of freely searchable journal citations now available via the web through secondary information providers Scirus and Infotrieve, TIM concluded that these private sector products fulfilled the needs in coverage at no cost to users. Consequently, the Department proposed to cease operation of PubSCIENCE and conducted a 30-day public notice period, as required by law; PubSCIENCE was terminated on November 4, 2002. TIM is now focused on improving coverage of DOE-sponsored journal literature, consistent with findings of several recent Inspector General reports. Information technology and software have matured, allowing for a more focused and simplified mechanism to access and account for DOE R&D results. DOE is making arrangements within the DOE community to compile this information. The modest resources that previously supported PubSCIENCE have been redirected to deploy new technologies specifically to harvest DOE journal information directly from the DOE Laboratories, contractors, and grantees.
- **Board of Visitors Program Review:** In June 2002, a distinguished Board of Visitors was unified in their support of TIM and the critical nature of its mission. The members of the Board specifically cited TIM's significant progress in rapidly shifting from a paper-based operation to an efficient web-based environment; partnering and collaborating with other federal agencies and the private sector in promoting e-government systems; and maintaining a professional, productive workforce amidst severe resource constraints.
- **Science.gov Alliance:** The TIM subprogram continues its participation in the development and enhancement of *science.gov*, the Interagency Science web resource. Hosted by OSTI, *science.gov* has 12 participating federal agencies bringing S&T to citizens, including scientists, teachers, students, and business people via one Internet site. *Science.gov* provides an integrated place to search and access previously hard-to-find government sponsored R&D projects and results, through a single query. Different options and paths are available for a diverse body of users. *Science.gov* provides a giant leap toward making e-government a reality and the U.S. an international leader in the area of STI exchange.
- **Awards and Recognition:** The TIM subprogram has demonstrated "first in class" capabilities in information collection, processing, and dissemination technologies and concepts, resulting in recognition and increased visibility for the Department and the SC. Specific recognition from outside the Department includes a commendation from the Depository Library Council of the GPO for TIM's Energy Citations Database (January 2002), and the 2001 Interagency Resource Management Conference (IRMCO) Award for demonstrating exceptional ability to operate across organizational boundaries to improve the government's service to its people (September 2001). Further, TIM was invited to write an article summarizing TIM's information technology advances for "Nature" magazine (May 2001). Within the Department, support and acknowledgement for TIM's successes is indicated by the 2001 DOE IT Quality Award for Management/Administrative Excellence recognizing TIM's leadership in implementing a streamlined system for providing legacy and current DOE STI in the Energy Citations Database (March 2002); DOE Secretarial Certificate of Achievement recognizing TIM and Scientific and Technical Information Program partners at DOE

field offices and laboratories for the completion of a successful transition from paper to electronic technical information reporting in support of DOE’s R&D mission, three years ahead of the DOE goal (March 2002); and 2000 DOE-Wide IT Quality Award for capitalizing on technological advances in the Information Age to bring science information to the desktops of U.S. and DOE researchers (March 2001).

Subprogram Goals

Deliver the scientific knowledge generated by or relevant to DOE’s R&D program via cost-effective e-government information retrieval systems to government, university, and industry users “so as to provide free interchange of ideas and criticism which is essential to scientific and industrial progress and public understanding and to enlarge the fund of technical information” (excerpt from 42 U.S.C. § 2161). Provide stewardship for the Department’s legacy of classified and unclassified STI; contribute to the Nation’s overall information infrastructure through partnerships with international organizations and other government information dissemination organizations such as the International Energy Agency’s Energy Technology Data Exchange (ETDE), International Atomic Energy Agency’s International Nuclear Information System (INIS), *science.gov* Alliance, Government Printing Office (GPO), National Technical Information Service, and CENDI (Commerce, Energy, Education, EPA, NASA, NLM, Defense, and Interior) organizations.

Performance Indicators

Increased amount of DOE-sponsored STI available online and increased use of STI. Increased amount of international STI available electronically.

Annual Performance Results and Targets

FY 2002 Results	FY 2003 Targets	FY 2004 Targets
Advanced science knowledge and its application by providing access to 5,000 new full-text technical reports and increased access to preprint servers from 5,200 to 8,000 sites.	Increase the number of new full-text technical reports available online by 5,000.	Increase the number of new full-text scientific and technical (S&T) documents available electronically by 5,000 to a total of 75,000 and maintain access to over 2,000,000 citations.
Represented DOE in the <i>science.gov</i> Alliance by providing a web-based search tool for over 30 multi-agency databases.	Continue to support the <i>science.gov</i> Alliance and establish the content and user base in partnership with other government agencies.	Increase in use of STI by 10 percent from a projected FY 2002 baseline of 6,000,000. Continue to support the <i>science.gov</i> Alliance by hosting the <i>science.gov</i> website.
Through international partnerships, made 80,000 new international research records available through web-based databases.	Increase the volume of international full-text information made electronically available to U.S. citizens by 5 percent.	Increase the volume of international full-text information made electronically available to U.S. citizens by 5 percent.

Funding Schedule

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
TIM Program Support					
E-Government Information Systems	696	898	750	-148	-16.5%
R&D Tracking System	202	202	200	-2	-1.0%
Foreign R&D Records	100	100	100	0	--
Electronic and Paper Document Storage	200	200	200	0	--
Subtotal, TIM Program Support.....	1,198	1,400	1,250	-150	-10.7%
TIM Program Direction					
Oak Ridge, TN					
Salaries and Benefits	5,860	6,011	6,006	-5	-0.1%
Travel	75	80	80	0	--
Support Services	100	100	100	0	--
Other Related Expenses.....	200	200	200	0	--
Total, Oak Ridge, TN	6,235	6,391	6,386	-5	-0.1%
Full Time Equivalents.....	74	71	71	0	--
Headquarters					
Salaries and Benefits	130	134	138	+4	+3.0%
Travel	0	0	0	0	--
Support Services	0	0	0	0	--
Other Related Expenses.....	0	0	0	0	--
Total, Headquarters	130	134	138	+4	+3.0%
Full Time Equivalents.....	1	1	1	0	--
Subtotal TIM Program Direction					
Salaries and Benefits	5,990	6,145	6,144	-1	--
Travel	75	80	80	0	--
Support Services	100	100	100	0	--
Other Related Expenses.....	200	200	200	0	--
Subtotal, TIM Program Direction	6,365	6,525	6,524	-1	--
Additional net budget authority to cover the cost of fully accruing retirement (non-add)	(481)	(428)	(579)	(+151)	(+35.3%)
Full Time Equivalents.....	75	72	72	0	--
Total, Technical Information Management.....	7,563	7,925	7,774	-151	-1.9%

Detailed Program Justification

(dollars in thousands)

	FY 2002	FY 2003	FY 2004
E-Government Information Systems	696	898	750

The TIM subprogram continues to lead DOE e-government initiatives for disseminating information, which include building the world’s most comprehensive collection of physical sciences information and providing greater free, electronic, public access to full-text gray literature, journal literature, and preprints. Activities supported include the following:

- **DOE Information Bridge.** The free, publicly accessible DOE Information Bridge, which contains searchable, full-text access to over 70,000 technical reports (over 5 million pages) from DOE research projects, enables users to bypass expensive and time-consuming bibliographic searches and requests for paper reports. As technology and common standards advance, it becomes more timely and economical to exchange information in electronic media. Hailed as a “model” for other interagency collaborations by the Chairman of the Joint Committee on Printing, the public version of the DOE Information Bridge is available through a partnership with the GPO.
- **PrePRINT Network.** The PrePRINT Network is a searchable gateway to preprint servers that deal with scientific and technical disciplines of concern to DOE and provides access to over 8,000 preprint sites worldwide with over 500,000 preprints in full text. Such disciplines include the great bulk of physics, materials, and chemistry, as well as portions of biology, environmental sciences, and nuclear medicine. The PrePRINT Network also features an alert service that enables researchers to set up a personalized profile and receive notification of new additions in their areas of interest.
- **Energy Citations Database.** The Energy Citations Database contains over 2,000,000 bibliographic citations for energy and energy-related STI from the DOE and its predecessor agencies. Through this database, TIM provides free access to DOE publicly-available citations from 1948 through the present and includes citations to report literature, conference papers, journal articles, books, dissertations, and patents in disciplines of interest to DOE.
- **DOE R&D Accomplishments.** DOE R&D Accomplishments is a central forum for information about the outcomes of past DOE R&D which has had significant economic impact, has improved people’s lives, or has been widely recognized as a remarkable advancement in science. The site contains searchable full-text and bibliographic citations of documents reporting accomplishments from DOE and DOE contractor facilities.
- **EnergyFiles.** EnergyFiles is the virtual library of energy science and technology, and is a comprehensive resource of on-line information systems, including those developed by the TIM subprogram and other government organizations. EnergyFiles provides both researchers and the general public with ever-expanding desktop access to over 500 STI resources, searchable by 14 subject categories. Users can search full-text heterogeneous information sources with a distributed, single query search tool called Energy Portal.
- **Capital Equipment.** Capital equipment funding is included for computer hardware (Sun fire server with SPARC technology) to support electronic information exchange efforts of ORACLE database.

(dollars in thousands)

FY 2002	FY 2003	FY 2004
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R&D Tracking System..... **202** **202** **200**

The DOE R&D Tracking System is the Department’s centrally-managed database that tracks key information about each R&D project sponsored or performed by DOE. The System is used for a variety of needs including responding to the annual OSTP data call, facilitating the Department’s tracking of R&D projects, and reducing the time spent in responding to ad hoc data calls from within and outside the Department. The R&D Tracking System provides an on-line mechanism for Program Offices and the DOE laboratories to review, manage, update, and analyze the Department’s multi-billion dollar R&D program. The R&D Project Summaries Database, the web- based public version of the DOE R&D Tracking System, provides open access to DOE R&D project summaries to U.S. industry, educators, and the public.

Foreign R&D Records **100** **100** **100**

Other industrialized nations are also investing in energy R&D, and the resulting technical information is globally recognized as a valuable commodity that can be exchanged in order to save taxpayer dollars and avoid duplicative research. As an international leader in the area of STI exchange, the TIM subprogram represents DOE and the U.S. in two international information exchanges, the International ETDE and the INIS. Through these exchanges, TIM acquires access to foreign research results. The ETDE agreement involves the exchange of energy-related information among 18 industrialized nations. INIS involves the exchange of nuclear energy information among over 104 countries and 19 international organizations. Funding at the requested level enables the Department to acquire approximately 80,000 new international research records on behalf of the domestic science community through the ETDE partnership.

Electronic and Paper Document Storage **200** **200** **200**

The TIM subprogram’s physical facility is the one place where the Department’s collection of STI can be found. With the transition to the electronic information age, the repository function for the nation’s energy-related science base must adapt to the new media. Interagency standards and agreements must be developed, adopted, and implemented while conserving resources and promoting information access and retrievability. The requested funding level allows for continued storage and preservation of a 50-year archive of 1.2 million historical technical reports. The TIM subprogram also maintains a classified information program that collects, preserves, and exchanges classified, sensitive, and limited circulation documents and houses a comprehensive repository of energy- and weapons-related classified information in a secure environment.

Subtotal, TIM Program Support..... **1,198** **1,400** **1,250**

(dollars in thousands)

FY 2002	FY 2003	FY 2004
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TIM Program Direction

Salaries and Benefits..... **5,990** **6,145** **6,144**

In the TIM subprogram, Federally-staffed functions include policy development and integration; U.S. and DOE representation in interagency and international information exchange agreements; management of safeguards and security activities; administration; personnel management; budget formulation and execution; procurement and contract management; records management; classified information program management; facility management; and collecting, organizing, preserving, and disseminating information resulting from DOE's R&D investment, including re-engineering mission-critical systems to take advantage of electronic information technology. Federal staff implements programs and practices involving all national laboratories and over 7,000 other DOE research entities producing STI.

Travel **75** **80** **80**

Travel funding supports a nationwide program involving national laboratories and thousands of research entities, including coordination of common exchange standards. Alternatives to travel such as teleconferencing will continue to be utilized when possible.

Support Services **100** **100** **100**

Provides for testing systems and concepts related to the TIM subprogram, web-based tools and services, and internal and external automatic data processing as well as support services needed for mailroom operations, environment, safety and health support, computer systems development, and hardware and software installation, configuration, and maintenance activities. Also includes support services needed for safeguards and security activities.

Other Related Expenses **200** **200** **200**

Expenses reflect facility maintenance costs, training for federal employees, telecommunications enhancements designed to support information dissemination, and acquisition of computer hardware and software necessary to accomplish network upgrades.

Subtotal, TIM Program Direction **6,365** **6,525** **6,524**

Total, Technical Information Management **7,563** **7,925** **7,774**

Explanation of Funding Changes

FY 2004 vs. FY 2003 (\$000)

Program Support

The decrease is a result of the savings achieved by reducing resources dedicated to the development of new e-government information systems. In FY 2004, resources will be dedicated to maintenance of existing systems

	-150
Total Funding Change, TIM Program Support	-150

Program Direction

■ Support for Program Direction is continued at the FY 2003 level.

	-1
Total Funding Change, TIM Program Direction	-1
Total Funding Change, TIM.....	-151

Support Services

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
Technical Support Services					
Test and Evaluation Studies.....	70	70	70	0	--
Total, Technical Support Services.....	70	70	70	0	--
Management Support Services					
ADP Support.....	30	30	30	0	--
Total, Management Support Services.....	30	30	30	0	--
Total, Support Services.....	100	100	100	0	--

Other Related Expenses

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
Training.....	10	10	10	0	--
Rental Spaces/Utilities.....	180	180	180	0	--
Software Procurement/Maintenance Activities/Capital Acquisitions.....	10	10	10	0	--
Total, Other Related Expenses.....	200	200	200	0	--

Energy Research Analyses

Mission Supporting Goals and Measures

The Energy Research Analyses (ERA) subprogram supports SC programs through the development of management tools and support, analysis of policy direction set by the Administration and the Congress, development and integration of SC strategic plans and research portfolios, evaluation of programs and performance, and facilitation of SC collaborations with other Federal agencies and major stakeholders.

Accomplishments

- The SC responsiveness to Government Performance and Results Act (GPRA) requirements was improved in FY 2002 through an evaluation of performance measures by a panel of experts under the Basic Energy Sciences Advisory Committee, the development of new tools and analysis mechanisms, and innovative research that has a goal of improving the performance metrics that a basic research organization should use to comply with GPRA.
- Strategic planning efforts were informed by the results of ongoing research and from a 3-year science foresighting study.
- Science policy studies and scientific research trend analyses were provided to SC program managers and to other public science organizations in FY 2002, including the results of case studies in: patent to paper citation analysis; preliminary results in novel performance measures for basic research; and “A Characterization of the Impact of the National Synchrotron Light Source on Life Sciences Research.” These studies assess program outcomes and inform future planning efforts. New case studies to document, retrospectively, the outcomes of several elements of the SC Research portfolio were initiated as part of the SC’s response to the OMB R&D Investment Criteria including: the “Impacts of the Microbial Genome Program,” “Unexpected Applications of a Nuclear Physics Research Tool (Hyperpolarized Gas) Highlighting Fundamental Differences Between The Research Approach Of Mission Agencies When Compared To The National Institutes Of Health;” and “A Research Management Case Study – Applied Math.”
- The SC led Federal government efforts to fully implement OMB’s R&D Investment Criteria, including sponsoring a major inter-agency workshop that featured expert private sector evaluators.
- A new tool was developed for the analysis of public benefit outcomes from the SC research portfolio. This tool can be used to analyze and characterize the impact of SC research on U.S. patents. One insight the tool revealed provides clear evidence that U.S. companies overwhelmingly garner the most benefit (82%), compared to international companies, from SC and national laboratory research. This tool has been shared with the national laboratories for further development and use in the management of intellectual property.
- Management practices were better informed through the dissemination to DOE senior program managers of the results of a literature review of best practices in science management.
- Science communications was advanced through sponsorship of the first ever government-wide science communications best practice workshop and the complete revamping of the SC website to make it more interactive, informative and useful to the general public.

Subprogram Goals

Develop and implement best-in-class tools and methods for evaluating the excellence, relevance and performance of SC basic research programs; and conduct case studies and other evaluations to document the societal outcomes of SC basic research programs. Conduct prospective analyses of emerging science management issues, future research opportunities, and research portfolio balance to support long-range planning and decision making for SC; and prepare strategic plans for future SC investments built upon its mission, its core competencies, and emerging research issues. Develop tools and methods, communities of practice, effective networks, and deployment strategies to improve access to SC information, programs and resources.

Performance Indicators

Number and quality of evaluation techniques adopted by SC. Number and quality of analyses performed. Indicators of access and awareness of SC program information and resources by different audiences.

Annual Performance Results and Targets

FY 2002 Results	FY 2003 Targets	FY 2004 Targets
In close collaboration with OMB, Office of Science and Technology Policy (OSTP) and other federal science agencies, develop an implementation strategy for the SC to fully incorporate the OMB R&D Investment Criteria for Basic Research.	Collaborate with OMB, OSTP and other federal science agencies to develop tools and methods for documenting the implementation of the OMB R&D Investment Criteria for Basic Research in the SC.	Develop software tools to manage and gather information about S&T research. This will emphasize investigation within a research area and across research areas to identify unexpected interconnections and impacts.
Initiated four pilot studies – 3 retrospective case studies and 1 prospective study to examine the societal impact of SC research.	Initiate four studies – 3 retrospective case studies and 1 prospective study to examine the societal impact of SC research.	Conduct 3 retrospective case studies to examine the outcomes and societal impact of SC research.
Complete Phase 2 and begin Phase 3 of studies to explore the global challenges over next 25 years that may affect future S&T management and policy.	Complete Phase 3 and prepare final set of scenarios on S&T management challenges that may emerge over the next 25 years.	The results of the studies commissioned in FY 2002 and FY 2003 will inform the work being pursued in FY 2004.
Create unique tools to identify the impact of publicly funded science on our nation's economy and scientific enterprise.	Conduct a study on the linkages between seemingly disparate branches of science with regard to reliance on large-scale research tools.	Advance the use of datamining and visualization tools for R&D portfolio.
Benchmark the U.S. position in international science.	Create unique resources using datamining and visualization tools for R&D portfolio management.	
Improve and integrate performance planning and measures between budget documents and DOE performance plans.	Publish results of quantitative performance measures study in open literature; fully incorporate into SC evaluation regime.	Integrate the retrospective case study findings to develop good metrics to produce excellent management techniques and processes.
Develop guidelines for consistently measuring performance of SC programs. Seek SC advisory committee advice.	Implement advisory committee recommendations. Update and publish the SC strategic plan.	

FY 2002 Results	FY 2003 Targets	FY 2004 Targets
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Develop overarching strategic framework and strategic themes for new SC strategic plan.

Sponsored a ground-breaking, international conference on “Best Practices in Public Communication of Science, Health and Technology” including presentation and publication of peer-reviewed papers to widely disseminate best practices.

Implement results of best practices studies. Develop tools to publicize SC’s unique scientific achievements, initiate interagency collaborations on implementation and further best-practices research. Develop a standard set of information about each program’s benefits and societal impact.

Prior-year study to culminate in integrated approach for validating to a broad audience our scientific achievements, demonstrating the linkages of SC scientific achievements and how it serves as the corner stone to other science agencies.

Funding Schedule

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
Energy Research Analyses	968	993	1,020	+27	+2.7%
SBIR/STTR	0	27	0	-27	-100.0%
Total, Energy Research Analyses.....	968	1,020	1,020	0	--

Detailed Program Justification

(dollars in thousands)

FY 2002	FY 2003	FY 2004
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Energy Research Analyses	968	993	1,020
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In FY 2004, ERA will focus on three major areas:

- *Corporate Communications* will communicate the benefit of SC's scientific achievements and ensure that SC contributions and capabilities are widely recognized. The impact and role of the SC in the science and technology infrastructure are not well understood. Communications in this area need improvement. To better understand the barriers to communications, ERA hosted an international conference on "Best Practices in Public Communication of Science, Health and Technology." Lessons learned from this conference are currently being implemented through such efforts as: redesign of the SC web page and improvements to the web-based newsletter "Energy Science News"; improved coordination between the SC and its laboratories through clearer reporting mechanisms and the identification of a single point of contact for each laboratory and for the Office of Science; initiation of a "Science Speakers Bureau"; publication of outcome and public benefit studies in peer-reviewed literature; publication and wide-dissemination of management best practices, including science communications best practices; and stronger interagency collaborations. FY 2004 funding will allow for: continued research on science communications; better training of the Public Affairs practitioners at the National Labs, further improvements to the SC webpage; an increase in the number and quality of SC publications aimed at communicating with the public; increased presence at trade conferences and meetings; and increased use of electronic news media to reach science attentive audiences. ERA also supports management of the Enrico Fermi Awards and the E.O. Lawrence Awards.
- *Case Studies* will be conducted by independent researchers to identify trends in the DOE research portfolio, as well as areas of portfolio performance that could be optimized, and to document the impacts of the basic research supported by the SC. This activity strongly supports SC implementation of the OMB R&D Investment Criteria and the GPRA. FY 2004 funding will allow ERA to characterize and document: the linkages between basic and applied research in the DOE; societal impacts (e.g., improved health, economic growth, etc.) from SC research; the methods by which SC research diffuses through the national S&T infrastructure; and other high impact areas of study that demonstrate the impact of the SC portfolio. All case studies will be submitted for publication in peer-reviewed literature and on the SC webpage. Case studies that identify trends in the DOE research portfolio, such as undesirable duplications and gaps, are part of the legislative mandate of this program and also provide validation of the continued relevance of the SC portfolio to DOE missions as called for in the Investment Criteria.

(dollars in thousands)

FY 2002	FY 2003	FY 2004
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- *Original and Collaborative Research* efforts will inform policy direction, characterize key issues in the research environment and their affect on SC programs, and identify potential duplications, gaps and opportunities within the Department’s basic research portfolio by collaborating with SC or DOE programs, other agencies, the national laboratories or universities. Research projects and collaborations with other agencies will inform the development of indicators of SC’s performance, quality, and relevance including the development of methods and tools for collecting data, tracking progress and reporting against these indicators. This research will also contribute to a broad based effort to develop computational tools and visualization techniques designed to manage vast amounts of data to assist in policy and planning for the SC research programs. These tools complement the case studies described above by providing the means by which the need for a case study can be identified. Critical to the success of this effort is improvement in the quality and quantity of data describing SC research projects.

SBIR/STTR	0	27	0
In FY 2002, \$25,000 and \$1,000 were transferred to the SBIR and Small Business Technology Transfer (STTR) programs, respectively. The FY 2003 amount is the estimated requirement for the continuation of the SBIR and STTR program.			
Total, Energy Research Analyses	968	1,020	1,020

Explanation of Funding Changes

FY 2004 vs. FY 2003 (\$000)

Energy Research Analyses

- ERA is continued at the FY 2003 level with emphasis shifting to implementation of FY 2001-2003 research results and to facilitating Office of Science implementation of the OMB R&D Investment Criteria and the Government Performance and Results Act (GPRA) with a focus on improving performance goals and measures.....
 +27

SBIR/STTR

- Decrease due to elimination of SBIR/STTR requirement as ERA is consolidated into Science Program Direction.
 -27

Total Funding Change, Energy Research Analyses.....	0
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Capital Operating Expenses & Construction Summary

Capital Operating Expenses

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
Capital Equipment	100	150	150	0	--
Total, Capital Operating Expenses	100	150	150	0	--