

Energy Research Analyses

Program Mission

The mission of the Energy Research Analyses (ERA) program is to provide the capabilities needed to evaluate the scientific excellence, relevance, and international leadership of the Office of Science basic science research programs; to advance the understanding of how the Office of Science contributes to DOE and national mission goals; and to contribute to the effective management of the department's science enterprise.

Strategic Objective

SC-8: Ensure efficient SC program management of research and construction projects through a re-engineering effort by FY 2003 that will support world class science through systematic improvements in SC's laboratory physical infrastructure, security, and ES&H.

Progress toward accomplishing this Strategic Objectives will be measured by a Program Strategic Performance Goal, Indicators and Annual Targets, as follows:

Program Strategic Performance Goals

SC8-1: By FY 2007, develop best in class evaluation tools and methods, science management practices, and communication capabilities that enable Office of Science basic research programs to meet critical DOE and national mission requirements.

Performance Indicators

Number and quality of evaluation techniques adopted by SC.

Performance Standards

As discussed in Corporate Context/Executive Summary.

Annual Performance Results and Targets

FY 2001 Results	FY 2002 Targets	FY 2003 Targets
Launched several research management studies to identify: 1) best practices in benchmarking, 2) best practices to administer public science communication, 3) effective use of quantitative performance measures to evaluate the societal impact of basic research, and 4) a case study methodology to ensure the success of future case studies of societal impact of SC science. (Met goal)	Improve and integrate performance planning and measures between budget documents and DOE performance plans; conduct six pilot retrospective and/or prospective studies to examine the societal impact of SC research. (SC8-1)	Publish results of quantitative performance measures study in open literature; fully incorporate results into SC evaluation regime. Conduct at least six studies/year to demonstrate the societal impact of SC science programs. (SC8-1)

Significant Accomplishments and Program Shifts

- The Office of Science (SC) responsiveness to Government Performance and Results Act (GPRA) requirements was improved in FY 2001 through an evaluation of performance measures, tools and mechanisms and the launching of a research management best practices benchmarking study.
- The Department of Energy Science Portfolio was updated in FY 2001 to better characterize the R&D efforts within the Department with regard to basic research. This portfolio will be maintained to assist the Director of the Office of Science in managing the Department's Science investments.
- Science policy studies and scientific research trend analyses were provided to Office of Science program managers and to other public science organizations in FY 2001, including the first results of a three-year study of international science trends that will inform SC's future strategic planning efforts.
- The FY 2003 program is continuing at the same level as FY 2002, but shifting its emphasis to new methods of evaluation of the science managed by the Office of Science. This shift in emphasis results from research conducted in FY 2001 and continuing in FY 2002 that was designed to create new evaluation tools (e.g., case studies, quantitative measures, and data mining) that will help to validate the excellence, relevance and leadership of the Office of Science programs. In addition, research projects will be sponsored in FY 2003 to demonstrate the societal impact of SC science programs and to create sophisticated data models and analysis techniques to better illustrate scientific trends and achievements.

Funding Profile

(dollars in thousands)

	FY 2001 Comparable Appropriation	FY 2002 Original Appropriation	FY 2002 Adjustments	FY 2002 Comparable Current Appropriation	FY 2003 Request
Energy Research Analyses					
Energy Research Analyses	950	1,000	-5	995	1,020
Subtotal, Energy Research Analyses...	950	1,000	-5	995	1,020
General Reduction	0	-5	5	0	0
Total Energy Research Analyses	950 ^a	995	0	995	1,020

Public Law Authorization:

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

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

^a Excludes \$25,000 which was transferred to the SBIR and \$1,000 which was transferred to the STTR program.

Funding by Site

(dollars in thousands)

	FY 2001	FY 2002	FY 2003	\$ Change	% Change
Albuquerque Operations Office					
Sandia National Lab/Albuquerque	200	5	100	+95	+1,900.0%
Chicago Operations Office					
Fermi National Accelerator Laboratory	22	0	0	0	--
Chicago Operations Office	200	357	310	-47	-13.2%
Total, Chicago Operations Office	222	357	310	-47	-13.2%
Oak Ridge Operations Office					
Oak Ridge Institute for Science and Education.....	77	0	55	+55	--
Oakland Operations Office					
Lawrence Berkeley National Laboratory	50	0	50	+50	--
Richland Operations Office					
Pacific Northwest National Laboratory ...	401	254	465	+211	+83.1%
Washington Headquarters	0	379	40	-339	-89.4%
Total, Energy Research Analyses	950 ^a	995	1,020	+25	+2.5%

^a Excludes \$25,000 which was transferred to the SBIR and \$1,000 which was transferred to the STTR program.

Site Description

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. This activity contributes to the Energy Research Analyses program's formulation of long-term and strategic plans.

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.

Pacific Northwest National Laboratory

Pacific Northwest National Laboratory (PNNL) is a Multiprogram 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 Energy Research Analyses program's formulation of long-term plans and science policy. This activity includes assessments of international basic energy science programs, trends in Federal and private sector investments in energy R&D, and science management trends and benchmarking.

Sandia National Laboratories

Sandia National Laboratories (SNL) is a Multiprogram 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 Energy Research Analyses program's formulation of best practices for long term plans, science policy and peer reviews. This activity includes assessments of best practices in research and development organizations.

All Other Sites

Includes funds for research awaiting distribution pending finalization of program office detailed planning.

Energy Research Analyses

Mission Supporting Goals and Objectives

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

Funding Schedule

(dollars in thousands)

	FY 2001	FY 2002	FY 2003	\$ Change	% Change
Energy Research Analyses.....	950	969	993	+24	+2.5%
SBIR/STTR	0	26	27	+1	+3.8%
Total, Energy Research Analyses	950	995	1,020	+25	+2.5%

Detailed Program Justification

(dollars in thousands)

	FY 2001	FY 2002	FY 2003
Energy Research Analyses	950	969	993

In FY 2003, ERA will focus on four major areas:

- *Evaluation studies* will be conducted by independent researchers to identify trends in the DOE research portfolio and potential societal impacts of research, as well as areas of portfolio performance that could be optimized.
- *Research projects* 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 are envisioned with universities, laboratories and private sector research performers, and with DOE or SC partners, and entail the conduct of original broad-based research efforts.
- *Performance measurement* efforts will develop indicators of SC’s international leadership, excellence, and relevance; develop data for a broad suite of quantitative measures used for the Annual Performance Plan and other reports; as well as provide a broad based effort to develop computational tools and visualization techniques designed to manage vast amounts of data to assist in policy and planning forecasting of SC science programs.
- *Stakeholder Collaboration & Communication* will ensure that Office of Science programs are well integrated into the Federal research portfolio and that the societal impact of SC programs is understood.

SBIR/STTR	0	26	27
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In FY 2001, \$25,000 and \$1,000 were transferred to the SBIR and STTR programs, respectively. The FY 2002 and FY 2003 amounts are the estimated requirement for the continuation of the SBIR and STTR program.

Total, Energy Research Analyses	950	995	1,020
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Explanation of Funding Changes from FY 2002 to FY 2003

FY 2003 vs. FY 2002 (\$000)

Energy Research Analyses

- The FY 2003 program is continuing at the same level, but is shifting emphasis to communications and research activities to support science managed and funded by the Office of Science programs.
 +24

SBIR/STTR

- Increase in SBIR/STTR due to increase in operating expenses.
 +1
- Total Funding Change, Energy Research Analyses
 +25