

**DEPARTMENT OF ENERGY
FY 1998 CONGRESSIONAL BUDGET REQUEST
ENERGY SUPPLY, RESEARCH AND DEVELOPMENT
(Tabular dollars in thousands, Narrative in whole dollars)**

UNIVERSITY AND SCIENCE EDUCATION

PROGRAM MISSION

The University and Science Education (USE) program supported activities that utilized the scientific and technical resources of the Department of Energy's laboratories to enhance the development of a diverse, well-educated and scientifically literate workforce. USE's centralized institutional support for the Department's education efforts enabled all DOE research and technical programs to provide hands-on research experiences for students and faculty at the Department's laboratories at minimum Department-wide administrative cost. This program was terminated in FY 1997 in accordance with Congressional direction.

The Office of Laboratory Policy and Infrastructure Management, which reports to the Director of the Office of Energy Research, managed the USE program. The program office was responsible for providing leadership and program support necessary to use and leverage the resources of the Department's laboratories to help replenish the pool of scientists and engineers, and to achieve significant, long-term improvements in their scientific and technological skills, primarily through hands-on research experiences at the laboratories.

The GOAL of the University and Science Education program was to:

Ensure that the Department effectively utilizes and leverages the resources of the DOE laboratory-based system to support its university and science education mission.

The OBJECTIVES related to this goal were to:

1. Provide opportunities and effective mechanisms for students and faculty to utilize the Department's laboratories for hands-on research experiences.
2. Support increased participation of underrepresented populations in science and engineering.

PROGRAM MISSION—UNIVERSITY AND SCIENCE EDUCATION (Cont'd)

3. Utilize DOE laboratory resources to contribute to systemic science education reform.
4. Provide the necessary infrastructure for the Department's laboratory-based science education programs.

PERFORMANCE MEASURES:

Performance measures for the University and Science Education program are both qualitative and quantitative. The quality of the program was measured by improvement in performance of the DOE Laboratory Science Education Programs. The program performance measures were:

1. Enhanced opportunities at DOE laboratories to improve students/faculty understanding of science and mathematics.
2. Increased flow of underrepresented students into science and math programs/careers achieved.
3. Cost sharing for program initiatives.

SIGNIFICANT ACCOMPLISHMENTS AND PROGRAM SHIFTS:

- By Congressional direction, this program was terminated in FY 1997.
- In accordance with Congressional direction in FY 1996 the University and Science Education program was restructured to concentrate the educational effort in the national laboratories. The new efforts built upon and enhanced our core strength of providing state-of-the-art real world hands on experience to students and faculty.
- Through the Science and Engineering Research Semester (SERS) program, approximately 300 undergraduates spent an academic term working side-by-side with scientists at DOE's national laboratories. In addition to gaining valuable research experience, these students helped DOE scientists advance their ongoing research.

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- The infrastructure supported by the Laboratory Cooperative Program enabled nearly 2000 college and university faculty and students to participate in collaborative hands-on research with the scientists from DOE's national laboratories. Participants in these programs brought fresh ideas to the Department's research endeavors, and carried "state-of -the-art" knowledge and experience from our laboratories back to their university and academic programs.
- Training provided by the laboratories through Laboratory Cooperative Program workshops and conferences provided 1500 college-level participants with new skills in developing areas of science such as parallel computation, an area of computer science in which the laboratories have played a leading role.
- Over 90 undergraduate students and 30 faculty involved in DOE-laboratory partnership efforts with Historically Black Colleges and Universities (HBCU) and other minority institutions participated in hands-on research with DOE laboratory scientists.
- Precollege activities that capitalize on leveraged previous investments and partnerships, and summer and academic laboratory-based research assignments were continued. While laboratory-based programs are our highest priority, the severity of the FY 1996 budget reductions required cutbacks in faculty and student intern and collaborative research appointments at the laboratories. No new university postdoctoral research fellows at the laboratories were appointed and substantial reductions were taken in support for minority and outreach efforts.

UNIVERSITY AND SCIENCE EDUCATION
PROGRAM FUNDING PROFILE
(Dollars in thousands)

<u>Subprogram</u>	<u>FY 1996 Enacted Appropriation</u>	<u>FY 1997 Original Appropriation</u>	<u>FY 1997 Adjustments</u>	<u>FY 1997 Current Appropriation</u>	<u>FY 1998 Budget Request</u>
Laboratory Cooperative Program.....	\$13,327	\$0	\$0	\$0	\$0
University Programs.....	5,925	0	0	0	0
Program Direction.....	814 a/	0	0	0	0
Subtotal, University and Science Education.....	<u>20,066</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Adjustment.....	<u>-1,145 b/</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total, USE.....	<u>\$18,921</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>

a/ \$813,555 was made available for University and Science Education staff severance costs.

b/ Share of Energy Supply, Research and Development general reduction for use of prior year balances assigned to this program. The total general reduction is applied at the appropriation level.

Public Law Authorization:

Pub. Law 95-91, DOE Organization Act

UNIVERSITY AND SCIENCE EDUCATION
(Dollars in thousands)

PROGRAM FUNDING BY SITE

	FY 1996 Enacted Appropriation	FY 1997 Original Appropriation	FY 1997 Adjustments	FY 1997 Current Appropriation	FY 1998 Budget Request
Field Offices/Sites					
Albuquerque Operations Office					
Inhalation Toxicology Research Institute	\$20	\$0	\$0	\$0	\$0
Los Alamos National Laboratory	579	0	0	0	0
Sandia National Laboratory	1,279	0	0	0	0
Chicago Operations Office					
Ames Laboratory	95	0	0	0	0
Argonne National Laboratory	2,550	0	0	0	0
Brookhaven National Laboratory	745	0	0	0	0
Fermi National Accelerator Laboratory	355	0	0	0	0
Princeton Plasma Physics Laboratory	300	0	0	0	0
Golden Field Office					
National Renewable Energy Laboratory	50	0	0	0	0
Idaho Operations Office					
Associated Western Universities	2,384	0	0	0	0
Idaho National Engineering Laboratory	120	0	0	0	0
Oakland Operations Office					
Lawrence Berkeley National Laboratory	1,069	0	0	0	0
Lawrence Livermore National Laboratory	677	0	0	0	0
Stanford Linear Accelerator Center	80	0	0	0	0
Oak Ridge Operations Office					
Thomas Jefferson National Accelerator Facility	150	0	0	0	0
Oak Ridge Institute for Science and Education	4,438	0	0	0	0
Oak Ridge National Laboratory	795	0	0	0	0
Ohio Field Office					
EG&G Mound App. Technology	72	0	0	0	0
Richland Operations Office					
Pacific Northwest National Laboratory	410	0	0	0	0
Savannah River Operations Office					
Savannah River Ecology Laboratory	100	0	0	0	0
Savannah River Tech. Center	5	0	0	0	0
All other sites a/	3,793	0	0	0	0
Subtotal	<u>20,066</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Adjustment	-1,145 b/	0	0	0	0
TOTAL	<u>\$18,921</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>

a/ Funding provided to universities, industry, other federal agencies and contractors.

b/ Share of Energy Supply, Research and Development general reduction for use of prior year balances assigned to this program.

The total general reduction is applied at the appropriation level.

UNIVERSITY AND SCIENCE EDUCATION
(Tabular dollars in thousands, narrative in whole dollars)

- I. **Mission Supporting Goals and Objectives:** Activities supported by University and Science Education programs ensured the effective utilization of DOE's laboratory system in support of the Department's university and science education mission by enhancing the capabilities of faculty and students through hands-on research experiences at DOE national laboratories; increasing the diversity of the scientific workforce; utilizing laboratory resources to contribute to systemic science education reform; and providing the infrastructure for the Department's laboratory-based science education programs.

Laboratory Cooperative Program

The Laboratory Cooperative Program was the Department's primary vehicle for providing faculty and students from every state in the United States access to its national laboratories. The program provided participants, from both small colleges, including predominately minority institutions, and large universities with access to state-of-the-art scientific equipment, with techniques and ideas that enabled them to further develop their critical thinking and analytical skills. The laboratory-based institutional support provided by the Laboratory Cooperative Program ensured effective participant placement across all of DOE's research and technical program areas and monitored the quality of their research experiences. Minority students and faculty were particularly sought out and encouraged to participate in the Laboratory Cooperative Program. From the many thousands of applications the Laboratory Cooperative Program received annually, it was clear that DOE's research participation appointments were highly regarded and that these opportunities played an important role in the science education program of the country.

University Programs

The University Programs included support for university-based efforts directed at encouraging more young people, including minorities and women, to pursue energy-related scientific and technical careers. Support was requested to sustain DOE laboratory/minority university alliances as well as other Administration and Congressionally recommended efforts to provide partnership opportunities with colleges and universities, federal, state, and local agencies.

PROGRAM PERFORMANCE SUMMARY (Cont'd)

II. Funding Schedule:

<u>Activity</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>\$ Change</u>	<u>% Change</u>
Laboratory Cooperative Program	\$13,327	\$ 0	\$ 0	\$ 0	--
University Programs	5,925	0	0	0	--
Program Direction	<u>814</u>	<u>0</u>	<u>0</u>	<u>0</u>	--
Total	<u>\$20,066</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	--

III. Performance Summary-Accomplishments

	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>
<u>Laboratory Cooperative Program</u>			
In FY 1996 nearly 300 undergraduates spent an academic term working side-by-side with scientists at seven of DOE's national laboratories.	\$3,040	\$ 0	\$ 0
In FY 1996, the infrastructure supported by the Laboratory Cooperative Program enabled over 3,700 college and university faculty and students to participate in collaborative hands-on research with scientists from DOE's national laboratories. Approximately 60 percent of the participants were supported with funds provided by the research areas at the laboratories. In addition, training provided through the Program's workshops and conferences supported an additional 1,500 college-level participants in gaining new skills in developing areas of science.	5,324	0	0

	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>
Funds were provided for laboratory-based research participation activities in precollege science education outreach projects. In FY 1997 and FY 1998 funding for all activities in this area will be eliminated.	1,833	0	0
No new postdoctoral research fellows were appointed at the laboratories in FY 1996. No additional funding will be available in FY 1997 and FY 1998 and this highly successful program was terminated.	1,100	0	0
Funding provided for program evaluation, data collection, electronic/other information dissemination, and general support required to maintain program integrity. In FY 1997 and FY 1998 these efforts are terminated.	2,030	0	0
Total Laboratory Cooperative Program	\$13,327	\$0	\$0
<u>University Programs</u>			
A long-term alliance among three DOE national laboratories, a Historically Black College and University (HBCU), two Hispanic serving institutions (HSIs) and four Native American serving institutions were reduced.	1,175	0	0
In FY 1996, funds were provided to support the Science Consortium, a partnership involving Jackson State University, the Ana G. Mendez Foundation and Lawrence Berkeley Laboratory.	600	0	0
Programs were funded in FY 1996, which benefitted faculty and students from Historically Black Colleges and Universities and other minority institutions.	1,877	0	0

	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>
University based efforts supported in FY 1996 to foster partnerships in precollege activities were terminated in FY 1997 and FY 1998.	2,273	0	0
Total University Programs	\$5,925	\$0	\$0
<u>Program Direction</u>			
Program direction resources of \$813,555 were utilized to terminate the 20 FTEs associated with this program per Congressional direction in the FY 1996 Conference Report.	814	0	0
Total University and Science Education	<u>\$20,066</u>	<u>\$0</u>	<u>\$0</u>

Explanation of Funding Changes FY 1997 to FY 1998:

This program was terminated in FY 1997 in accordance with Congressional direction.

