

# Congressional Budget Request

General Science and Research  
Uranium Enrichment  
Geothermal Resources Development Fund  
Power Marketing Administrations  
Departmental Administration

Volume 3

**FY 1988**



U.S. Department of Energy

Assistant Secretary,  
Management and Administration  
Office of the Controller  
Washington, D.C. 20585

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DEPARTMENT OF ENERGY  
 FISCAL YEAR 1988 CONGRESSIONAL BUDGET REQUEST  
 SUMMARY OF ESTIMATES BY APPROPRIATIONS  
 BUDGET AUTHORITY IN THOUSANDS OF DOLLARS

	FY 1986 Actual <u>BA</u>	FY 1987 Estimate <u>BA</u>	FY 1988 Request <u>BA</u>
Appropriations Before The Energy and Water Development Subcommittees:			
Energy Supply Research and Development .....	\$ 1,701,351	\$ 1,254,131	\$ 1,914,710
Uranium Enrichment .....	1,549,015	1,210,400	1,070,000
General Science and Research .....	659,059	719,517	814,498
Atomic Energy Defense Activities ..	7,292,405	7,481,852	8,050,000
Departmental Administration .....	235,676	139,509	166,133
Alaska Power Administration .....	3,245	2,881	3,026
Bonneville Power Administration ...	404,329	327,659	205,800
Southeastern Power Administration .	---	19,647	27,400
Southeastern - Continuing Fund ....	4,028	---	---
Southwestern Power Administration .	29,180	25,337	16,648
Western Area Power Administration .	195,842	240,309	295,515
Western Area Power Emergency Fund .	147	225	---
Federal Energy Regulatory Commission .....	45,107	-3,465	-900
Nuclear Waste Fund .....	499,037	499,000	500,000
Geothermal Resources Development Fund .....	<u>69</u>	<u>72</u>	<u>72</u>
Subtotal, Appropriations Before the Energy and Water Development Subcommittees .....	<u>\$12,618,490</u>	<u>\$11,917,074</u>	<u>\$13,062,902</u>

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	<u>FY 1986</u> <u>Actual</u> <u>BA</u>	<u>FY 1987</u> <u>Estimate</u> <u>BA</u>	<u>FY 1988</u> <u>Request</u> <u>BA</u>
Appropriations Before Interior and Related Agencies Subcommittees:			
Alternative Fuels Production .....	\$ 2,775	\$ ---	\$ ---
Clean Coal Technology .....	---	---	50,000
Fossil Energy Research and Development .....	309,389	251,402	168,900
Naval Petroleum and Oil Shale Reserves .....	13,002	122,177	159,700
Energy Conservation .....	426,187	149,679	86,090
Energy Regulation .....	23,423	23,400	21,680
Emergency Preparedness .....	5,750	6,044	6,206
Strategic Petroleum Reserve .....	107,533	147,433	270,181
Energy Information Activities .....	<u>57,724</u>	<u>60,301</u>	<u>61,599</u>
Subtotal, Interior and Related Agencies Subcommittees .....	945,783	760,436	824,356
Subtotal, Energy and Water Development Subcommittees .....	<u>12,618,490</u>	<u>11,917,074</u>	<u>13,062,902</u>
Subtotal, Department of Energy .....	13,564,273	12,677,510	13,887,258
Permanent - Indefinite Appropriations:			
Payments to States .....	<u>629</u>	<u>705</u>	<u>727</u>
Total, Department of Energy .....	<u>\$13,564,902</u>	<u>\$12,678,215</u>	<u>\$13,887,985</u>

DEPARTMENT OF ENERGY  
 FY 1988 CONGRESSIONAL STAFFING REQUEST  
 TOTAL WORK FORCE

	FY1986 FTE USAGE	FY1987 -FY86	FY1987 CONGR REQ	FY1988 -FY87	FY1988 CONGR REQ
ENERGY & WATER SUBCOMMITTEE					
HEADQUARTERS	4,663	170	4,833	47	4,880
FIELD	9,393	62	9,455	-4	9,451
SUBCOMMITTEE TOTAL	14,056	232	14,288	43	14,331
INTERIOR SUBCOMMITTEE					
HEADQUARTERS	1,254	-13	1,241	-104	1,137
FIELD	883	5	888	-143	745
SUBCOMMITTEE TOTAL	2,137	-8	2,129	-247	1,882
GRAND TOTAL	16,193	224	16,417	-204	16,213
ADJUSTMENT		-317	-317	54	-263
ADJUSTED TOTAL	16,193	-93	16,100	-150	15,950

DEPARTMENT OF ENERGY  
 FY 1988 CONGRESSIONAL STAFFING REQUEST  
 TOTAL WORK FORCE

	FY1986 FTE USAGE	FY1987 -FY86 CONGR REQ	FY1987 CONGR REQ	FY1988 -FY87 CONGR REQ	FY1988 CONGR REQ
10 ENERGY SUPPLY RESEARCH AND DEV	918	0	924	0	924
HEADQUARTERS	630	4	639	0	639
FIELD	283	4	287	0	287
15 URBAN AIR POLLUTION CONTROL	45	2	47	0	47
HEADQUARTERS	54	2	56	0	56
FIELD	11	0	11	0	11
20 GENERAL SCIENCE AND RESEARCH	38	1	39	0	39
HEADQUARTERS	38	1	39	0	39
25 ATOMIC ENERGY DEFENSE ACTIVITIES	2,718	142	2,860	30	2,890
HEADQUARTERS	491	52	543	19	562
FIELD	2,227	90	2,317	11	2,328
30 DEPARTMENTAL ADMINISTRATION	3,273	77	3,350	20	3,370
HEADQUARTERS	1,493	46	1,739	5	1,744
FIELD	1,580	31	1,611	15	1,626
34 ALASKA POWER ADMINISTRATION	36	2	38	-3	35
FIELD	36	2	38	-3	35
36 BORNEVILLE POWER ADMIN	3,491	-61	3,430	-50	3,380
FIELD	3,491	-61	3,430	-50	3,380
38 SOUTHEASTERN POWER ADMIN	38	2	40	0	40
FIELD	38	2	40	0	40
42 SOUTHWESTERN POWER ADMIN	193	-7	186	0	186
FIELD	193	-7	186	0	186
46 WAPA - POWER MARKETING	1,176	-14	1,160	0	1,160
FIELD	1,176	-14	1,160	0	1,160
50 WAPA - COLORADO RIVER BASIN	219	0	219	0	219
FIELD	219	0	219	0	219
52 FEDERAL ENERGY REGULATORY COM	1,597	62	1,659	0	1,659
HEADQUARTERS	1,597	62	1,659	0	1,659
54 HIGH LEVEL WASTE FUND	295	20	311	44	357
HEADQUARTERS	154	3	157	22	180
FIELD	137	17	154	22	177
56 GEOTHERMAL RESOURCES DEV FUND	1	0	1	0	1
HEADQUARTERS	1	0	1	0	1
63 FOSSIL ENERGY RESEARCH AND DEV	706	-3	703	-113	590
HEADQUARTERS	141	-3	138	0	138
FIELD	565	0	565	-113	452
70 NAVAL PETROL & OIL SHALE RES	95	-4	95	0	95
HEADQUARTERS	20	2	22	0	22
FIELD	79	-6	73	0	73
75 ENERGY CONSERVATION	322	30	352	-109	243
HEADQUARTERS	201	24	227	-84	143
FIELD	121	4	125	-25	100
80 EMERGENCY PREPAREDNESS	44	7	71	0	71
HEADQUARTERS	44	7	71	0	71
81 ECONOMIC REGULATION	348	-53	295	-20	275
HEADQUARTERS	348	-53	295	-20	275
85 STRATEGIC PETROLEUM RESERVE	157	-5	147	-5	142
HEADQUARTERS	34	-12	22	0	22
FIELD	119	7	125	-5	120
90 ENERGY INFORMATION ACTIVITIES	446	20	466	0	466
HEADQUARTERS	446	20	466	0	466
94 ADVANCES FOR CO-OP WORK	2	0	2	0	2
FIELD	2	0	2	0	2
GRAND TOTAL	16,193	224	16,417	-204	16,213
ADJUSTMENT		-317	-317	54	-263
ADJUSTED TOTAL	16,193	-93	16,100	-150	15,950

DEPARTMENT OF ENERGY  
FISCAL YEAR 1988 CONGRESSIONAL BUDGET REQUEST  
GENERAL SCIENCE AND RESEARCH  
VOLUME 3  
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## GENERAL SCIENCE AND RESEARCH ACTIVITIES

For expenses of the Department of Energy, activities including the purchase, construction and acquisition of plant and capital equipment and other expenses incidental thereto necessary for general science and research activities in carrying out the purposes of the Department of Energy Organization Act (Public Law 95-91), including the acquisition or condemnation of any real property or facility or for plant or facilities acquisition, construction, or expansion; purchase of passenger motor vehicles (not to exceed [12] 22, of which 18 are for replacement only); [\$708,400,000] \$814,498,000 to remain available until expended. (Energy and Water Development Appropriations Act, 1987, as included in Public Laws 99-500 and 99-591, section 101(e).)

DEPARTMENT OF ENERGY  
 FISCAL YEAR 1988 CONGRESSIONAL BUDGET REQUEST  
 SUMMARY OF ESTIMATES BY APPROPRIATION BY MAJOR ACTIVITY  
 GENERAL SCIENCE AND RESEARCH  
 BUDGET AUTHORITY IN THOUSANDS OF DOLLARS

	<u>FY 1986</u> Actual	<u>FY 1987</u> Estimate	<u>FY 1988</u> Request
High Energy Physics .....	\$490,440	\$499,679	\$566,598
Nuclear Physics .....	172,527	217,043	245,100
High Energy and Nuclear Physics Program Direction .....	<u>2,092</u>	<u>2,453</u>	<u>2,800</u>
Subtotal, General Sciences .....	665,059	719,175	814,498
Less Use of Prior Year Balances and Other Adjustments .....	<u>-6,000</u>	<u>342</u>	<u>---</u>
Total, General Science and Research.	<u>\$659,059</u>	<u>\$719,517</u>	<u>\$814,498</u>



DEPARTMENT OF ENERGY  
FY 1988 CONGRESSIONAL BUDGET REQUEST  
GENERAL SCIENCE AND RESEARCH

OVERVIEW

General Science Program Direction

This program provides the Federal staffing resources and associated funding to plan, direct, and manage a viable, high quality national program of basic research in the fields of high energy physics and nuclear physics. It supports the staff in the Office of the Associate Director for High Energy and Nuclear Physics, the Division of High Energy Physics, the Division of Nuclear Physics, and associated program and management support staff required to administer these programs.

This program supports the Federal staff responsible for managing these large and complex programs. The Department of Energy provides over 90 percent of the Federal support, and serves as the Executive Agent, for the national High Energy Physics program. Approximately 80 percent of the total Federal support of basic nuclear research is provided through the Nuclear Physics program. This staff supports, plans, and provides for construction, maintenance, and operation of the large facilities on which research in high energy physics and nuclear physics depends. In carrying out these responsibilities, the staff assesses the basic research needs of these programs with the advice and assistance of the High Energy Physics Advisory Panel (HEPAP) and the DOE/NSF Nuclear Science Advisory Committee (NSAC), participates actively in their meetings and subpanel studies, and provides administrative support for their operation. The staff also oversees the operation of large and complex accelerator facilities which are used by qualified physicists throughout the Nation, provides technical oversight of the high energy physics and nuclear physics research programs at 15 major laboratories, and interacts with universities and other Federal agencies. This staff participates extensively in international collaboration and cooperative programs with Japan, China, and the Soviet Union, and possibly in the future with Spain, Italy, and Canada.

DEPARTMENT OF ENERGY  
 FY 1988 CONGRESSIONAL BUDGET REQUEST  
 GENERAL SCIENCE AND RESEARCH  
 (dollars in thousands)

LEAD TABLE

General Science Program Direction

	FY 1986 Actual -----	FY 1987 Appropriation -----	FY 1988 Base -----	FY 1988 Request -----	% Change from FY 1987 Approp. -----
General Science Program Direction					
Operating Expenses.....	\$2,092	\$2,453	\$2,667	\$2,800	14.1%
Total.....	\$2,092 a/	\$2,453	\$2,667	\$2,800	14.1%
Staffing (FTE's).....	38	39	39	39	

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Authorization: Section 209, P.L. 95-91.

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a/ Total has been reduced by \$102,000 in accordance with P.L. 99-177, The Balanced Budget and Emergency Deficit Control Act of 1985 (Gramm/Rudman/Hollings).

DEPARTMENT OF ENERGY  
FY 1988 CONGRESSIONAL BUDGET REQUEST  
GENERAL SCIENCE AND RESEARCH  
(dollars in thousands)

SUMMARY OF CHANGES

General Science Program Direction

FY 1987 Appropriation enacted.....	\$ 2,453
Adjustments - Increased personnel costs attributable to the 1987 pay raise, increased agency contribution to the new Federal Employees Retirement System, and one additional day.....	+ 214
FY 1988 Base.....	<u>2,667</u>
- Increased personnel costs such as within-grade and merit increases and associated benefits and support costs.....	+ 133
FY 1988 Congressional Budget Request.....	\$ 2,800

DEPARTMENT OF ENERGY  
 FY 1988 CONGRESSIONAL BUDGET REQUEST  
 GENERAL SCIENCE AND RESEARCH  
 (dollars in thousands)

KEY ACTIVITY SUMMARY

OFFICE OF ENERGY RESEARCH

I. Preface: General Science Program Direction

This program provides the staffing and associated funding resources for the High Energy Physics and Nuclear Physics Programs.

II. A. Summary Table

Program Activity	FY 1986	FY 1987	FY 1988	% Change
General Science Program Direction..	\$ 2,092	\$ 2,453	\$ 2,800	+ 14.1%
Total, General Science Program Direction.....	\$ 2,092	\$ 2,453	\$ 2,800	+ 14.1%

III. Activity Descriptions

Program Activity	FY 1986	FY 1987	FY 1988
<p>General Science Program Direction</p> <p>The High Energy Physics staff provided continued oversight of high energy accelerator centers at Brookhaven National Laboratory, Fermilab, and Stanford Linear Accelerator Center. The staff provided technical oversight for high energy physics research programs at 9 major laboratories, managed more than 100 university research tasks, and provided technical and project management oversight for 3 major construction projects. Workload has also been heavily impacted by planning activities related to the Superconducting Super Collider (SSC).</p>	<p>Provided funds for the salaries, benefits, and travel for 38 FTE's in the Office of High Energy and Nuclear Physics and for related program and management support staff. (\$2,004)</p>	<p>Provide for personnel-related costs associated with the authorized level of 39 FTE's. Prior year unobligated funds will be used for the 1987 pay raise and the increased agency contribution to the new Federal Employees Retirement System. (\$2,403)</p> <p>Provide technical oversight for the operation of existing facilities, the AGS Accumulator/Booster at Brookhaven, and for bringing the new capabilities available from the Tevatron collider at Fermilab and the Stanford Linear Collider at SLAC into operation for research. Provide management oversight for fabrication of two large colliding beam detectors for more effective utilization of the new Tevatron and SLC research capabilities. Continue an extensive program in advanced technology R&amp;D.</p>	<p>Continue staff activities at the FY 1987 level of effort. Provide for the normal increased personnel costs such as within-grade and merit increases, impact of the 1987 pay raise and the increased agency contribution to the Federal Employees Retirement System as participation increases. (\$2,750)</p> <p>Continue oversight of facilities operation and contractor performance. Continue planning, research and development, program reviews, briefings, responding to numerous inquiries, and analysis of technical designs and cost estimates of planned construction projects resulting from the advanced technology R&amp;D effort.</p>

Program Activity

FY 1986

FY 1987

FY 1988

The Nuclear Physics staff provided continued oversight of seven large and complex national accelerator facilities. The staff provided technical oversight for nuclear physics research programs at 13 major laboratories, managed more than 100 university research tasks, provided technical and project management oversight for 3 construction projects, and managed the Nuclear Data activity under Basic Energy Sciences. Workload has also been heavily impacted by preparations for construction of the Continuous Electron Beam Accelerator Facility (CEBAF).

Both the High Energy Physics and Nuclear Physics staffs, together with U.S. scientists, participated in experiments at foreign facilities with unique capabilities not available in the U.S. and in conferences and workshops abroad under ongoing manpower-intensive agreements with Japan, China, and the Soviets. Began negotiations on an agreement with Spain and a Memorandum of Understanding (MOU) with Italy. Reviewed hundreds of contractor foreign travel requests and trip reports.

Provided program and management support in the areas of budget and finance, personnel administration, acquisition and assistance, policy and coordination, and construction, environment and safety.

Provided program support such as printing, program-specific contractual support, and supplies and materials totaling \$125, of which \$37 comprised use of prior year unobligated carryover. (\$88)

Continue to oversee high priority, new research capabilities at existing and new facilities. Continue to manage R&D associated with CEBAF and to respond to the large number of inquiries and requests for briefings of senior staff of Congressional Committees, OMB, and OSTP, as well as members of Congress. Conduct monthly project reviews, review and monitor the construction activity initiated in FY 1987, and monitor the design and acquisition of the experimental devices to prepare for the transition from a construction project to an operating research facility.

Continue time-consuming and sensitive negotiations on the pending agreement with Spain and the Memorandum of Understanding with Italy in High Energy Physics. Increase Nuclear Physics activity with Japan and implement a new accord with China involving visitation responsibilities and U.S./Chinese research cooperative efforts. Continue to increase activities with the Soviets, and enter into negotiations with the Canadians.

Continue staff activities at approximately the FY 1986 level of effort.

Provide for a variety of program support services such as printing and binding, purchase of program-specific supplies and materials, time-sharing on various information systems and communications networks such as electronic mail, and contractual support for technical writing and editing. (\$50)

Continue to oversee facilities operation and contract performance. Review and monitor CEBAF activity as conventional construction expands in FY 1988. Interact with a variety of DOE, contractor, and other officials on the complexities involved with establishing a new laboratory/accelerator facility. Continue planning and R&D for the Relativistic Heavy Ion Collider.

Increase international collaboration in both programs. Accommodate increased foreign interest in new U.S. accelerator facilities.

Continue staff activities at approximately the FY 1987 level of effort.

Continue the variety and level of program support required in FY 1987. (\$50)

Total, General  
Science Program  
Direction

\$2,092

\$2,453

\$2,800