From the President's FY 2003 Budget Proposal

ENERGY PROGRAMS

Federal funds

General and Special Funds

SCIENCE

Program and Financing (in millions of dollars)

ID code 89-0222-0-1-251	2001Act	2002 est.	2003 est.
Obligations by program activity:			
00.01 High energy physics	696	714	725
00.03 Nuclear physics	352	359	382
00.05 Biological and environmental research	477	528	504
00.06 Basic energy sciences	974	1,000	1,020
00.07 Advanced scientific computing research	161	158	170
00.08 Energy research analyses	1	1	1
00.09 Science Facilities Infrastructure	30	31	43
00.11 Program direction	147	150	139
00.12 Small business innovation research	88	.....	.....
00.13 Small business technology transfer	5	.....	.....
00.14 Fusion energy sciences	242	248	257
00.15 Safeguard and securities	55	50	44
00.16 Facilities and infrastructure	.....	10	.....
10.00 Total new obligations	3,228	3,249	3,285

Fusion Energy Sciences Program.— The fusion energy sciences program for 2003 continues to implement the recommendations of the reports by the National Research Council, the Secretary of Energy Advisory Board and recommendations of the Fusion Energy Science Advisory committee. The mission of the program is to advance plasma science, fusion science, and fusion technology. The program emphasizes the underlying basic research in plasma and fusion sciences, with the long-term goal of harnessing fusion as a viable energy source. The program centers on the following goals: understanding the physics of plasmas; identification and exploration of innovative and cost effective development paths to fusion energy; and exploration of the science and technology of energy producing plasmas, as a partner in an international effort.

The budget request provides for support of basic research in plasma science in partnership with NSF, plasma containment research, and investigation of tokamak alternatives, along with continued operation of DIII–D, Alcator C-Mod, and the National Spherical Torus Experiment. Research on alternate concepts is continued to develop a fuller understanding of the physics of magnetically confined plasma and to identify approaches that may improve the economical and environ-mental attractiveness of fusion. Fabrication of the new National Compact Stellarator experiment will be initiated at Princeton Plasma Physics Laboratory. The inertial fusion energy activity is exploring an alternative path for fusion energy that would capitalize on the major R&D effort in inertial confinement fusion which is carried out by NNSA for stockpile stewardship purposes. Theory and modeling efforts will be supported to develop a predictive capability for the operation of fusion experiments. Enabling technology research will also be conducted in support of the science experiments.

Energy research analyses.—This activity involves objective assessments to evaluate the quality and impact of DOE research programs and projects.

Science laboratories infrastructure.—The goal of the science laboratories infrastructure program is to provide funds for rehabilitating, replacing or demolishing deficient common-use utilities, roads, and buildings and to correct Environment, Safety and Health deficiencies at the civilian science laboratories. An ''excess facilities disposal'' subprogram, first funded by Congress in FY 2002 as the Facilities and Infrastructure program, is included in FY 2003 in the Science Laboratories Infrastructure program. The Oak Ridge Landlord activity is also funded here.

Advanced Scientific Computing Research (ASCR).—This program includes research in mathematical, information, and computational sciences and laboratory technology research activities. The purpose of the ASCR program is to support advanced computational research—applied mathematics, computer science, and networking—to enable the analysis, simulation and prediction of complex physical phenomena. The program also supports the operation of large supercomputer user facilities. The request includes research, integrated with other science programs, on application of computer simulation and modeling to science problems.