

# US House of Representatives Appropriation Committee Report

## May 18, 2005

### **Fusion Energy Sciences**

The Committee recommendation for fusion energy sciences is \$295,155,000, an increase of \$5,605,000 over the budget request but with a significant redirection of funds as outlined below. The Committee is concerned that two-thirds of the proposed increase for the International Thermonuclear Experimental Reactor (ITER) would be achieved by reducing domestic fusion research and operating time on domestic use facilities. Under the proposed fiscal year 2006 budget, operating time at the three major fusion research facilities (DIII-D, Alcator C-Mod, and NSTX) would be reduced from 48 weeks in fiscal year 2005 to a total of only 17 weeks in fiscal year 2006. If the United States expects to be a serious contributor to international fusion research in general and to ITER in particular, the Nation needs to maintain strong domestic research programs and user facilities to train the next generations of fusion scientists and engineers. The Department's proposal to increase support for ITER at the expense of domestic fusion research is unwise and unacceptable. Such an approach is not only short-sighted, but inconsistent with prior Congressional guidance. Therefore, the Committee directs the Department to utilize \$29,900,000 of funding proposed for ITER and the additional \$5,605,000 to restore U.S.-based fusion funding to fiscal year 2005 levels as follows: \$7,300,000 for high performance materials for fusion; \$14,305,000 to restore operation of the three major user facilities to fiscal year 2005 operating levels; \$7,200,000 for intense heavy ion beams and fast ignition studies; \$5,100,000 for compact stellarators and small-scale experiments; and \$1,600,000 for theory. As in previous years, the Committee directs the Department to fund the U.S. share of ITER through additional resources rather than through reductions to domestic fusion research or to other Office of Science programs. If the Department does not follow this guidance in its fiscal year 2007 budget submission, the Committee is prepared to eliminate all U.S. funding for the ITER project in the future.

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### **Inertial Confinement Fusion (ICF) Ignition and High Yield.**

The Committee recommends \$541,418,000 for the inertial confinement fusion and high yield program, which maintains the program at the current year level and is an increase of \$81,000,000 over the budget request.

The Committee supports the Department's response to the Congressional concern expressed last year regarding the fiscal year 2005 budget request proposed schedule slip to the program goal of ignition demonstration in 2010 for the National Ignition Facility (NIF). The Committee continues to view ignition demonstration as the primary benchmark for success in the program. The Committee commends the Department's effort to projectize the ICF program consistent with DOE Order 413.3, and to manage the

ignition, diagnostic, cryogenic and experimental programs as projects incorporating a work breakdown structure to track scope, cost, and schedule milestones, within a project management control system. The Committee directs the NNSA to report quarterly on the milestone cost and schedule variance within the respective experimental programs on progress toward the NIF 2000 rebaselined program.

The Committee recommendation includes a total of \$69,623,000 for Facility Operations and Target Production, of which \$15,000,000 shall be available to accelerate target fabrication. The Committee believes that a target that meets all the NIF ignition criteria should be produced and characterized in a cryogenic environment. NNSA should provide the Committee with a detailed schedule by March 2006 to accomplish this requirement. Should fabrication of the new beryllium target prove too high risk to ensure meeting the NIF milestones, NNSA is required to provide the Committee with the alternative that will be pursued in order to keep to the 2010 ignition schedule. The Committee recommendation includes \$25,000,000 to continue development of high average power lasers and supporting science and technology within the Inertial Fusion Technology program line; within that amount, the Committee includes \$2,000,000 for the high density matter laser at the Ohio State University Technology Park. The Committee recommendation includes \$15,000,000 for the Naval Research Laboratory, and \$71,558,000 for the University of Rochester's Laboratory for Laser Energetics (LLE), an increase of \$26,000,000 over the budget request. The LLE is the principal research and experimentation laser facility for NNSA Science-based Stockpile stewardship activities. The Committee increase includes an additional \$4,000,000 for OMEGA operations to provide additional shots to support the ICF campaign goal of an ignition demonstration in 2010 and an additional \$22,000,000 to accelerate the OMEGA Extended Performance capability project, a four beam super-high-intensity, high-energy laser facility to support the nation's stockpile stewardship program. The Committee notes that the University of Rochester is providing \$21 million for the building to house the OMEGA EP.

The Committee recommendation provides \$141,913,000 for construction of the National Ignition Facility (NIF), the same as the budget request.