

FY06 Energy and Water Development Appropriations
House Senate Conference Report
Fusion Language
November 7, 2006

Fusion Energy Sciences.--The conferees provide \$290,550,000 for fusion energy sciences, the same as the budget request. The conferees direct the Department to utilize \$29,900,000 of funding proposed for ITER work in fiscal year 2006 to restore U.S.-based fusion funding to fiscal year 2005 levels as follows: \$7,300,000 for high performance materials for fusion; \$8,700,000 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 conferees direct the Department to fund the U.S. share of ITER in fiscal year 2007 through additional resources rather than through reductions to domestic fusion research or to other Office of Science programs. Within available funds, the conferees include \$1,000,000 for non-defense research activities at the Atlas Pulse Power facility. In addition, the conferees direct the Government Accountability Office (GAO) to undertake a study of the Office of Science Fusion Energy Sciences program in order to define the role of the major domestic facilities in support of the ITER, including recommendations on the possible consolidation or focus of operations to maximize their research value in support of ITER. The GAO shall also evaluate the opportunities to leverage the National Nuclear Security Administration investment as an alternative to the tokamak concept.

Inertial Confinement Fusion (ICF) Ignition and High Yield.--The conference agreement includes \$549,073,000 for the inertial confinement fusion ignition and high yield program. The conferees support the House language regarding project management control systems for managing the ICF program. The conferees direct the NNSA Administrator to issue a report by March 1, 2006 that identifies the scientific and stockpile stewardship value of the National Ignition Facility if the project fails to achieve the ignition demonstration by 2011, or at any time in the future.

Ignition.--The conference agreement recommends \$75,615,000, the same as budget request.

Support for Other Stockpile Programs.--The conference agreement includes \$19,872,000, an increase of \$10,000,000 over the budget request, to perform experiments on the Z-machine to validate computer models as well as experiments on OMEGA at the University of Rochester.

NIF Diagnostics, Cryogenics and Experimental Support.--The conference agreement provides \$43,008,000, the same as the budget request.

Pulsed Power Inertial Confinement Fusion.--The conference recommendation includes \$11,012,000, a \$901,000 increase over the budget request, for pulsed power ICF to assess Z pinches as drivers for ignition and high yield fusion.

University Grants/Other ICF Support.--The conference recommendation includes \$7,700,000 for research assistance in high energy density science, a level consistent with fiscal year 2005. The conference agreement includes \$5,000,000 for the Nevada Terawatt Facility. Within the funds provided, \$3,000,000 is for research into strongly magnetized high energy density matter and \$2,000,000 is for construction of the high energy, short-pulse laser system.

Facility Operations and Target Production.--The conference agreement includes \$64,623,000, an additional \$10,000,000 over the request, for facility operations and target production. The conferees provide the additional \$10,000,000 to accelerate target fabrication.

Inertial Fusion Technology.--The conference agreement restores \$48,000,000 of funding for the Inertial Fusion Technology program. Within the funds provided, \$25,000,000 is for continuing development of high average power lasers, \$2,000,000 for the high density matter laser at the Ohio State University Technology Park, \$15,000,000 for the Naval Research Laboratory, and \$6,000,000 to prepare Z-machine to support extended operations.

NIF Demonstration.--The conference agreement includes \$102,330,000 to support the NIF Demonstration program.

High Energy Petawatt Laser Development.--The conferees provide \$35,000,000 for high energy petawatt laser development, an increase of \$32,000,000 above the request. The conference recommendation includes an additional \$4,000,000 for OMEGA operations to provide additional shots to support ignition demonstration in 2011 and an additional \$22,000,000 to accelerate the OMEGA Extended Performance capability project, a four beam super-high-intensity, high-energy laser facility. Within the available funds, \$2,000,000 is provided for continued development of petawatt laser at the University of Texas at Austin; \$2,000,000 is provided to the University of Nevada, Reno to continue its collaboration with Sandia National Laboratories on highly diagnosed studies of exploding wire arrays and implosion dynamics. The conferees provide \$2,000,000 to Sandia National Laboratories for Z-Petawatt Consortium experiments using the Sandia Z-Beamlet and Z petawatt lasers.

Construction--Project 96-D-111.--The conferees provide \$141,913,000 for construction of the National Ignition Facility (NIF), the same as the budget request