



U.S. Department of Energy's
Office of Science

Fusion Energy Sciences Program Update

Fusion Energy Sciences Advisory Committee



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www.ofes.fusion.doe.gov

Major Activities Since the Last FESAC Meeting on February 28-March 1

- o OFES Management changes
- o Responses to the Congress on the EPAct requirements
- o ITER related activities
- o Grant solicitations
- o Status of major facility operations
- o Progress with the U.S. Burning Plasma Organization

OFES Management Changes

- o I am acting as the Associate Director (AD) for Fusion Energy Sciences
- o Job announcement for AD position closed on 3/31/06
- o Expected to announce selection in Fall 2006
- o Erol Oktay, Steve Eckstrand and Gene Nardella are acting as the Director, Research Division on a two month rotation
- o Warren Marton is acting as the Director, ITER and International Division

Requirements by the Energy Policy Act of 2005

1. Secretary Must submit to Congress a plan for the development of fusion energy
 2. Secretary must submit to Congress the international ITER Agreement
 - Agreement contents must: clearly define U.S. financial contribution to construction and operation costs, ensure share of high-tech hardware is proportionate with financial contribution, ensure the U.S. will not pay for overruns by other parties, guarantee full access to data generated by ITER, enable researchers, provide U.S. decision making rights, describe deactivation and decommissioning processes.
 - **Limitation: 120-day review by Congress prior to expending construction funds**
 3. Secretary must submit to Congress a report on ITER Management and Fixed Dollar Estimate on U.S. participation
 - **Limitation: 120-day review by Congress prior to expending construction funds**
 4. Secretary must submit to Congress a report on how the ITER will be funded (without reducing funding from OFES or other SC programs)
 - **Limitation: 60-day review by Congress prior to expending construction funds**
 5. Secretary, in consultation with FESAC, must develop a plan for the U.S. participation in ITER – research agenda, evaluate progress, and benefit to domestic fusion program
 - **Limitation: 60-day review by Congress prior to expending construction funds**
- Submitted
April 4, 2006
- Done,
Submission
to
Congress
in Progress
- Plan will be
presented at
this meeting

ITER Status

Next Steps Leading to Signing

- o The ITER Parties will take the following steps to advance the ITER Agreement to its final stages:
 - Initialed the ITER Agreement in Brussels on May 24, 2006.
 - Lehman and OECM Reviews: Fall 2006
 - Sign the ITER Agreement on November 29, 2006, location to be determined.
 - Ratify/accept in early-mid calendar year 2007, documents to be sent to the International Atomic Energy Agency Director General who is acting as Depository.
- o Ned Sauthoff/Warren Marton will provide more details later on the agenda

Grant Solicitation for NSF/DOE Partnership

- o The NSF/DOE partnership in Basic Plasma Science and Engineering is entering its 9th year
- o The third major joint solicitation is entering its final phase
 - Funding for grants this year is about \$3 million from DOE and \$2 million from NSF
 - In addition to mail reviews, seven panels were convened at NSF headquarters on April 10-11 to review the more than 200 grant applications that were submitted in response to the solicitation
- o The DOE and NSF program managers agreed on 29 awards by DOE alone, 2 joint NSF/DOE awards; NSF has not yet finalized the NSF only awards
- o All applicants will be informed when NSF has completed writing up its review

Plasma Physics Junior Faculty Development Program

- o Results of FY06 Solicitation
 - 7 proposals submitted
 - 2 awards made (\$ 335 K)
 - Jan Egedal-Pedersen, Massachusetts Institute of Technology, “Laboratory Studies of Reconnection in Magnetically Confined Plasmas,”
 - Chuang Ren, University of Rochester, “Current-Driven Filament Instabilities in Relativistic Plasmas.”

Status of Major Facilities

- o All three facilities are operating; their progress on their FY 2006 schedules are:
 - Alcator C-Mod almost completed its 14 weeks of operation
 - DIII-D completed its year-long shutdown for major modifications; it will start a 12 week campaign
 - NSTX has almost completed its 11 week schedule.

The US Burning Plasma Organization (USBPO) is Now Fully Formed

- o The USBPO Director is Ray Fonck (Wisconsin) and Tony Taylor is Deputy Director
- o The USBPO Council Chair is Jim VanDam (Texas) and Vice-Chair is Amanda Hubbard (MIT)
 - The Council has 12 members from across the community
- o There are ten topical groups in USBPO
 - Leaders and co-leaders have been nominated
 - Further details on: <http://burningplasma.org/>
- o An important USBPO task has been the preparation of the ITER EPAct Report, to be reported by Ray Fonck at this meeting.