



U.S. Fusion Energy Sciences Program

Presented to

Fusion Energy Sciences Advisory Committee
Gaithersburg, Maryland

By

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www.ofes.fusion.doe.gov

Excellent Science in Support of Attractive Energy

Agenda

- o FY 2003 Budget Status
- o Status of US Participation in ITER
- o NRC Burning Plasma Assessment
- o Theory Solicitation Results
- o ICC Solicitation Results
- o Hosting 2006 IAEA Conference

FY 2003 FES Budget

- o President's Request \$257.3M
- o House Mark \$248.5 M
 - \$2.5 M ear marks for NSTX and NCSX
- o Senate Mark \$259.3 M
 - \$2.0 M ear mark for evaluating “fast ignition”
- o Initial Fin Plan \$248.5 M
 - Continuing Resolution terms not yet defined
- o Conference not yet scheduled
- o Department appealing to President's Request

FY 2003 Budget

	FY 2002 <u>Aug AFP</u>	FY 2003 <u>CONG</u>	FY 2003 <u>IFP</u>
Science	133.9	142.6	141.6
Facility Operations	71.2	78.6	69.2
Enabling R&D	<u>36.0</u>	<u>36.1</u>	<u>37.7*</u>
<i>Total</i>	<i>241.1</i>	<i>257.3</i>	<i>248.5</i>

*+\$700k shift of IFE Target Fabrication
+\$1,000k for ITER costing studies

Status of U.S. Participation in ITER

- o Administration is considering invitation to join ITER Negotiations
- o U.S fusion research community supports U.S. participation in ITER Negotiations
- o FESAC and NRC reviewing burning plasma strategy and will make recommendations on whether U.S. should participate in ITER

ITER Cost Estimating Effort in FY 2003

- o Cost of possible U.S. ITER roles needed to aid in developing negotiating position
- o Preliminary estimate 9 months, about \$1 million
- o PPPL will lead this multi-organization effort, bringing both key people and contracting infrastructure.

NRC Burning Plasma Assessment

- o Assess importance of BP program to:
 - Fusion energy sciences and technology
 - Development of fusion as an energy source
 - Plasma science
 - Science in general

- o Assess readiness to proceed

- o Review Snowmass/Austin BP strategy

- o Co-Chairs
 - John Ahearne, Sigma Xi
 - Ray Fonck, U. of Wisconsin

- o Schedule
 - First meeting September 17-18
 - Letter Report December 2002
 - Final Report mid-2003

NRC Burning Plasma Assessment Committee

- John Ahearne*, Sigma Xi
- John Bacall, Princeton U
- Gordon Baym, UI-Urbana
- Steve Cowley, Imperial College
- Ray Fonck*, U. of Wisconsin
- Ed Freeman, SAIC
- Walter Geckelman, UCLA
- Joseph Hezir, EOP Group
- Bill Nevins, LLNL
- Ron Parker, MIT
- Claudio Pellegrini, UCLA
- Burton Richter, SLAC
- Clifford Surko, UCSD
- Tony Taylor, GA
- Mike Ulrickson, SNL
- Michael Zarnstorff, PPPL
- Ellen G. Zweibel, JILA

*Co-Chair

Theory Grant Review Process

- o This is the third year of using a comparative review process—all grants now reviewed
- o The peer review process works well
 - Thanks to the willingness and hard work of reviewers (most do 2-3 applications)
 - Most reviews are thoughtful and detailed
- o Virtually all applicants and reviewers understand the process

Theory Review Results

- o Thirty-six applications received
- o Overall the best group of applications ever
 - Half rated very good to excellent
- o Seven renewals and 2 new grants funded
 - Theory budget 1-2% below FY 2002 level
 - Thus, most grants funded at current levels, which is 15-40% below requested amounts
- o One renewal declined (close-out funding)
- o Thanks to all reviewers!

ICC Grant Review Results

- o This is a revival of using a comparative review process for the ICC program -- all ICC work will now be reviewed on a rotating 3 year basis
- o Process worked well, thanks to great response of reviewers
- o 17 proposals received, 1 renewal declined, and 5 proposals accepted (1 new one)

Summary of Theory and ICC Reviews

	<u>Theory</u>	<u>ICC</u>
Number of Proposals	36	17
Number Accepted	9	5
Renewals	(7)	(4)
New	(2)	(1)
Number Terminated	1	1
Funding	\$2.7M	\$6.2M

2006 IAEA Fusion Energy Conference

- o Question to FESAC
 - Should the U.S. seek to Host the 2006 IAEA FEC?
 - o Background
 - Last FEC in U.S. was 1990
 - 2004 FEC will be held in Portugal
 - Korea is likely candidate for 2006—showcasing KSTAR
 - Time to note interest at upcoming IFRC meeting, Oct. 13
 - U. of Wisconsin has expressed interest in hosting 2006 meeting
 - o Benefits to U.S.
 - Strengthens U.S. international ties and presence
 - Enables greater attendance by U.S. grad students, etc.
 - o Concerns
 - Some group must take on considerable effort to host
 - Some way must be found to host dinner without USG funds
 - Considerable research program funds must be used for hosting
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- o Related matter -- Tom Dolan's position at IAEA, Head of Physics Unit -- now open -- **INTERESTED?** See Mike Roberts