

PPPL Institutional Presentation

R. J. Hawryluk

**Office of Fusion Energy Sciences
Budget and Planning Meeting
March 18-19, 2003**



PPPL Participates In Almost All Facets of the OFES Program

- **Science**

- Tokamak Exp. Research

- DIII-D, C-Mod

- Int. Tokamaks, Diagnostic

- Alternative Concept Exp. Res.

- NSTX, NCSX, QPS

- Exp. Plasma Res (Alts)

- FRC, Univ. Support

- Inertial Fusion Energy

- Theory

- Fusion Plasma Theory

- Advanced Computing

- General Plasma Science

- MRX

- **Facility Operations**

- DIII-D, C-Mod

- NSTX

- NCSX

- QPS, GPP/GPE

- Burning Plasma Exp.

- **Enabling R&D**

- Plasma Tech. (CDX-U)

- Fusion Tech. (ALPS)

- Adv. Design and Analysis

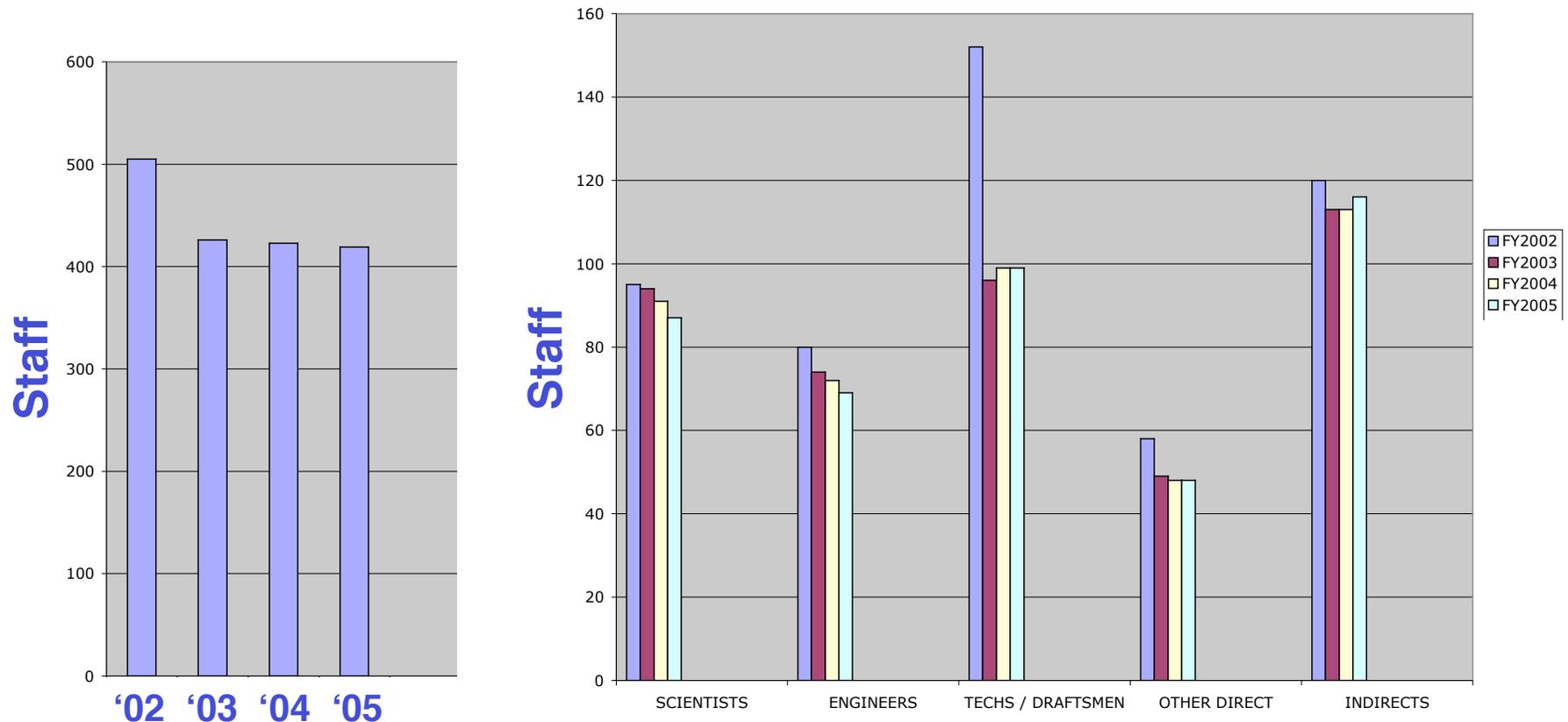
Budget Requirements to Support OFES Programs

	FY 2002	FY 2003	FY 2004		FY 2005	
	BA	BA	Base	Incr.	Base	Incr.
NSTX	24.4	26.1	30.4	1.0	30.4	2.6
NCSX	4.3	9.5	14.9	0.4	20.5	
QPS	0.1	0.3	0.3	0.4	0.3	2.4
FIRE	0.7	0.8		0.9		0.9
ARIES / Socioecon. Studies / ALPS	0.5	0.5	0.1	0.4	0.1	0.4
DIII-D / C-Mod Collaborations	6.4	6.7	6.5	1.5	6.5	2.0
International Collaborations	3.2	3.1	1.7	1.7	1.7	1.7
Theory/SciDAC	6.5	6.8	6.8	0.8	6.8	1.1
PS&T (CDX-U / MRX / MNX / Diag..)	3.5	3.9	4.0	0.8	4.0	0.7
NSF Collaborations (MRX / MRI)				0.6		0.6
Beam Propagation in HIF	1.1	1.3	1.1	1.0	1.1	1.7
Science Education	0.6	0.6	0.6	0.1	0.6	0.1
GPP / GPE / TFTR D&D.....	17.9	1.9	2.0		2.0	0.2
Other	0.3		0.0		0.0	
Total Fusion Energy Sciences	69.6	61.4	68.5	9.6	74.1	14.3
ITER Costing Studies		0.5	2.0		2.0	

PPPL science budget is down \$1.4M in '04.



Staffing Requirements



Increased support for PPPL scientists and engineers in off-site research could assist in research and operations, and help sustain key PPPL areas of expertise.



Financial Issues

- Ratio of sum of labor costs, fixed costs, and long lead procurements to total budget is high.
 - **Releasing seven additional staff in FY'03.**
- New provisions of DOE contract require increasing Institutional GSO from \$5M to \$7.6M.
- Waste management costs (\$0.95M) transferred from D&D to Projects in FY'03.
- Change in indirect allocations transferred \$550k from project funding to support of Safeguards and Security
- Emphasis by Office of Science on supporting Lab infrastructure requires increasing GPP and maintenance by \$500k by FY'05.

Impact of a 10% Reduction

- **Staffing Impact**

- Reduction of 40 staff (research, engineering, technical, and administration)
- Impact of severance ~20 additional losses.
- Loss of multiple core competencies.

- **Programmatic Impact**

- Reduce NSTX run weeks from 21 to 11 in FY'04 and 21 to 8 in FY'05
- First Plasma on NCSX slips by ~6 months and cost increases by ~\$2M.
- Increase in Laboratory's deferred maintenance backlog by 10-15%.
- Increase risk to the Laboratory's ability to meet environmental and other regulations.

Summary

- **PPPL participates in, and supports, the broad portfolio of research activities in OFES**
- **We construct and operate collaborative facilities for the community.**
- **We collaborate on other national and international off-site facilities.**
- **During the construction phase for NCSX, PPPL research and engineering staff could support a greater level of off-site collaboration.**