U.S. Department of Energy's

Office of Science

Fusion Energy Sciences Program Update

Budget Planning Meeting

Office of Fusion Energy Sciences

Excellent Science Attractive Energy

www.ofes.fusion.doe.gov

Dr. N. Anne Davies

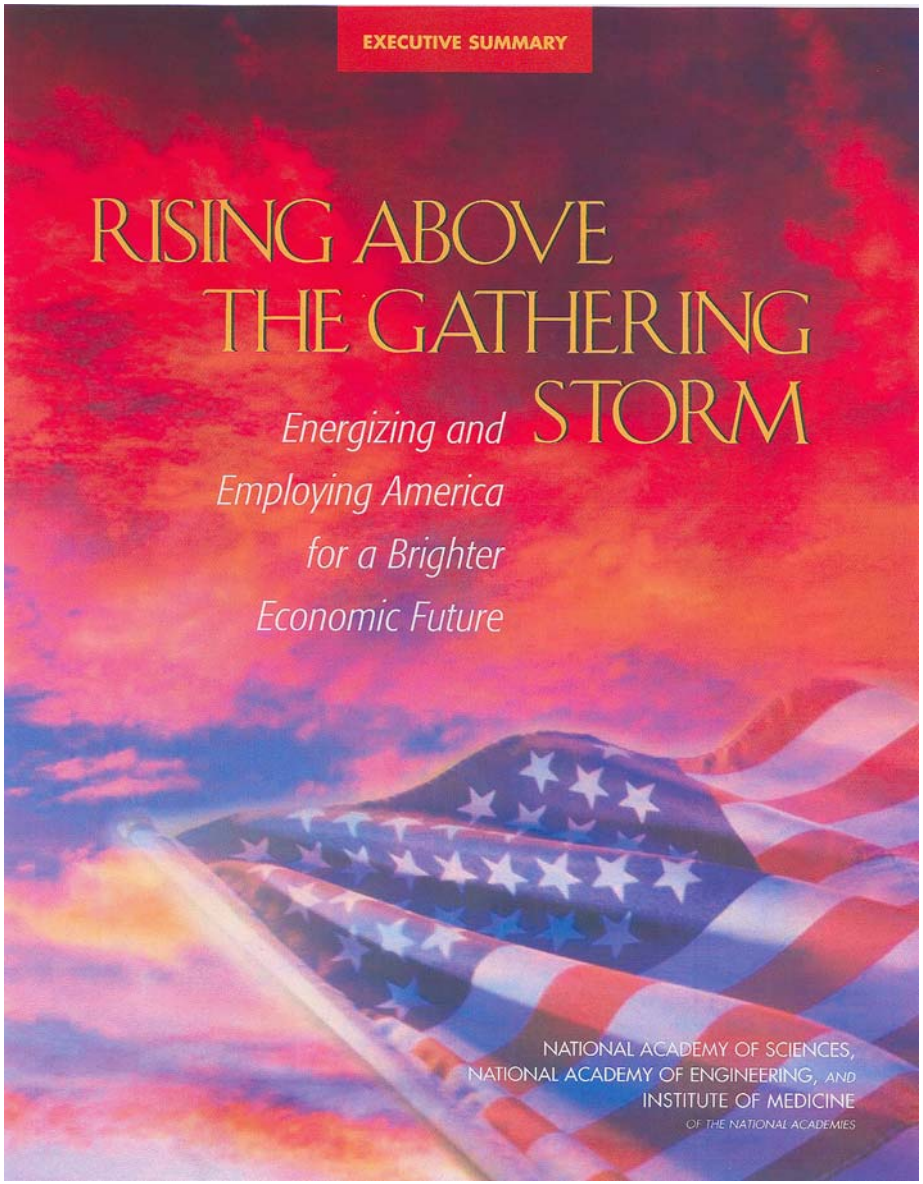
Associate Director

for Fusion Energy Sciences

March 14, 2006

National Academy of Sciences Report

Fusion is part of SC's part of the American Competitiveness Initiative



U.S. Department of Energy

Office of Science

Office of Science
FY 2007 Congressional Budget Request

(dollars in thousands)

	FY 2005 Approp.	FY 2006 Approp.	FY 2007 President's Request	FY 2007 vs. FY 2006
Basic Energy Sciences	1,083,616	1,134,557	1,420,980	+286,423
Advanced Scientific Computing Research	226,180	234,684	318,654	+83,970
Biological and Environmental Research				
Base program	487,474	451,131	510,263	+59,132
Congressional-directed projects	79,123	128,700	——	-128,700
Total, Biological and Environmental Research	566,597	579,831	510,263	-69,568
High Energy Physics	722,906	716,694	775,099	+58,405
Nuclear Physics	394,549	367,034	454,060	+87,026
Fusion Energy Sciences	266,947	287,644	318,950	+31,306
Science Laboratories Infrastructure	37,498	41,684	50,888	+9,204
Science Program Direction	154,031	159,118	170,877	+11,759
Workforce Development for Teachers and Scientists	7,599	7,120	10,952	+3,832
Small Business Innovation Research/Technology Transfer	113,621	——	——	——
Safeguards and Security	67,168	68,025	70,987	+2,962
Subtotal, Science	3,640,712	3,596,391	4,101,710	+505,319
Use of prior year balances	-5,062	——	——	——
Total, Science	**3,635,650**	**3,596,391**	**4,101,710**	**+505,319**

5-Year Plan Sent to Congress

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Facility Operations	62,726	65,767	67,276	82,791	86,215	86,056
ITER TEC	15,866	37,000	149,500	208,500	208,500	180,785
Research	209,052	216,183	210,224	202,709	206,285	217,159
FES Total	**287,644**	**318,950**	**427,000**	**494,000**	**501,000**	**484,000**

Modified 5-Year Plan-Core Research Shown

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Facility Operations	62,726	65,767	67,276	82,791	86,215	86,056
ITER TEC	15,866	37,000	149,500	208,500	208,500	180,785
ITER OPC	3,449	23,000	10,500	6,000	1,500	500
NCSX MIE	17,019	15,900	15,900	2,264		
Core Research	188,584	177,283	183,824	194,445	204,785	216,659
FES Total	**287,644**	**318,950**	**427,000**	**494,000**	**501,000**	**484,000**

FY 2007 Fusion Energy Sciences Congressional Budget Request

($ Millions)

	FY 2005 Actual	FY 2006 Appropriations	FY 2007 Request
Science	148.5	156.9	154.2
Facility Operations	89.7	103.5	121.6
Enabling R&D	28.7	27.2	43.2
OFES Total	**266.9**	**287.6**	**319.0**
DIII-D	55.8	54.7	56.7
C-Mod	22.0	21.7	22.8
NSTX	34.5	34.0	35.1
NCSX	18.3	17.8	16.6
ITER	5.4	25.1	60.0
Non-ITER	261.5	262.5	259.0

ITER Outyear Funding Profile

U.S. Contributions to ITER - Annual Profile

($ in Millions – in as spent dollars)

Fiscal Year	Total Estimated Costs (TEC)	Other Project Costs (OPC)	Total Project Costs (TPC)
2006	15.9	3.4	19.3
2007	37.0	23.0	60.0
2008	149.5	10.5	160.0
2009	208.5	6.0	214.5
2010	208.5	1.5	210.0
2011	180.8	.5	181.3
2012	130.0	0	130.0
2013	116.9	0	116.9
2014	30.0	0	30.0
Total	**1,077.1**	**44.9**	**1,122.0**

Fusion Energy Sciences

($ in thousands)

Science	FY 2005 Sept AFP	FY 2006 Appropriations	FY 2007 Request
DIII-D Research	24,042	24,412	24,300
C-MOD Research	8,636	8,510	8,890
International Collaborations	5,116	4,826	5,064
Diagnostics	3,894	3,763	3,854
Other	5,364	5,006	3,730
SBIR/STTR (science)	0	6,945	7,262
Subtotal Tokamaks	**47,052**	**53,462**	**53,100**
NSTX Research	15,992	15,845	16,696
Experimental Plasma Research	21,656	21,778	19,990
HEDP	14,640	15,856	11,949
ATLAS	(0)	(990)	(0)
MST Research	6,423	6,320	6,970
NCSX Research	773	751	697
Subtotal Alternates Research	**59,484**	**60,550**	**56,302**
Theory	**24,928**	**25,749**	**23,900**
Advanced Computing/SciDAC	**4,033**	**4,222**	**6,970**
General Plasma Science	**12,176**	**13,760**	**13,941**
Science Total	**148,494**	**156,922**	**154,213**
Facility Operation			
DIII-D	31,709	30,280	32,362
Alcator C-Mod	13,402	13,207	13,941
NSTX	18,495	18,140	18,422
NCSX	17,500	17,019	15,900
Facility Ops times in weeks	16/18/18	7/14/11	12/15/12
Other	1,433	1,298	2,020
GPE	100	100	100
GPP	1,643	1,791	1,810
ITER Preparations	5,451	5,835	0
U.S. Contributions to ITER (MIE)	0	15,866	37,000
Facility Operations Total	**89,733**	**103,536**	**121,555**

Enabling R&D	FY 2005 Sept AFP	FY 2006 Appropriations	FY 2007 Request
Engineering Research			
Plasma Technologies	18,403	14,205	12,945
Advanced Design & Analysis	2,979	2,489	2,550
Enabling R&D for ITER	0	3,449	23,000
Materials Research	7,338	7,043	4,687
Enabling R&D Total	**28,720**	**27,186**	**43,182**
Total Fusion Energy Sciences	**266,947**	**287,644**	**318,950**
DIII-D	55,751	54,692	56,662
Alcator C-Mod	22,038	21,717	22,831
NSTX	34,387	33,985	35,118
NCSX	18,273	17,770	16,597
ITER (Preparations & MIE)	5,451	25,150	60,000
Non-ITER	261,496	262,494	258,950

American Competitive Initiative and Earmarks

Funds provided in a tough federal budget must be used for relevant, peer reviewed research

Earmarks will be removed from agency budget in the next year

Associate Director Position Vacancy Information

To find out more information on the position for

Associate Director for Fusion Energy Sciences

Go to www.usajobs.opm.gov

Click on "Search Jobs"
In "Keyword Search" type in Fusion
At bottom of page, click "search for jobs"

Closing Date for application submission is March 31, 2006