

**PrincetonUniversity Plasma Physics Laboratory
PPPL COST PERFORMANCE REPORT WORKBREAKDOWN STRUCTURE**

NCSX

**** Cumulative to date FY03, FY04 , FY05 & FY06****

FEBRUARY 2006

CUMULATIVE TO DATE (from 4/1/03) (k)

ECP 39

	Budgeted Cost		ACWP	VARIANCES				Budget
	BCWS	BCWP		Sch Var	SPI	Cst Var	CPI	Thru FY06
1 - Stellarator Core Systems	36,481	35,020	35,999	-1,462	.96	-980	.97	44,349
12 Vacuum Vessel Systems	8,403	7,699	7,866	-705	.92	-167	.98	9,159
CLOSED 1201 - Vacuum Vessel Prelim Dsn	424	424	424		1.00	0	1.00	424
CLOSED 1202 - Vacuum Vessel R&D	1,770	1,770	1,771		1.00	-1	1.00	1,770
1203 - Vacuum Vessel Final Dsn	1,099	1,033	1,110	-66	.94	-77	.93	1,098
1204-VV Sys Procurements (non VVSA)	65	32	89	-33	.49	-57	.36	193
CLOSED 1206 - VV Field Weld Joint R&D	16	16	16		1.00	0	1.00	16
1250 - Vacuum Vessel Fabrication	5,030	4,424	4,457 (1)	-606	.88	-33	.99	5,658
13 Conventional Coils	2,140	1,865	2,008	-275	.87	-143	.93	2,765
1301 - TF Design	946	945	964	-1	1.00	-19	.98	946
1302 - PF Design	11			-11				11
1303 - Central Solenoid Support Design		27	33	27		-6	.81	
1350 - TF Coil Fabr Prep	732	501	545	-231	.68	-45	.92	743
1351 - TF Coil Fabr Supplies	392	357	397	-35	.91	-40	.90	811
1361 - TF Fabrication	59	35	68	-25	.59	-33	.51	254
1352 - PF Coil Procurement								-
1353 - CS Structure Procurement								-
1354 - Trim Coil Procurement								-
1355 - WBS 13 I&C Proc & Coil Assy								-
14 Modular Coils	22,065	21,691	22,305	-374	.98	-614	.97	27,311
CLOSED 1401 - Mod Coil Prel.Dsn	304	304	304		1.00	0	1.00	304
CLOSED 1402 - Mod.Coil Analyses	239	239	239		1.00	0	1.00	239
1403 - Modular Coil Final Design (includes job 1424)	3,269	3,195	3,409	-74	.98	-214	.94	3,339
1416 - Mod Coil Type A&B Final Design	606	302	151	-304	.50	151	2.00	756
CLOSED 1404-MCWF R&D & 1st Prod Casting	2,544	2,544	2,544		1.00	0	1.00	2,544
CLOSED 1405-Mod Coil Winding R&D Prep	168	168	168		1.00		1.00	168
CLOSED 1406 - Mod. Coil Winding Facility	2,247	2,247	2,264		1.00	-17	.99	2,247
CLOSED 1407 -Mod Coil Winding Facility	2,546	2,546	2,571		1.00	-25	.99	2,546
1408-Mod Coil Winding Supplies	967	1,004	1,057 (3)	36	1.04	-53	.95	1,638
CLOSED 1409 - Mod. Coil Test Stand	916	916	916		1.00	0	1.00	916
CLOSED 1410 MC Twisted Racetrack Fabr	1,050	1,050	1,050		1.00	0	1.00	1,050

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		Budgeted Cost			VARIANCES				
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	1411-MCWF Fabrication S005242	5,515	5,593	5,556 (2)	78	1.01	37	1.01	8,098
	CLOSED 1412 - Complete Winding Facilities	537	537	541		1.00	-4	.99	537
	CLOSED 1413 - Mod Coil Fracture Analysis	28	28	28		1.00	0	1.01	28
	1414 - Coil Testing	223	209	310	-14	.94	-102	.67	276
	CLOSED 1415 - Dimensional Control Testing	24	24	24		1.00	0	1.00	24
	CLOSED 1419 - Winding Facility Modification	48	48	54		1.00	-6	.88	48
	1421 - Mod Coil Interface Hardware								
	1451 - Mod Coil Winding	834	738	1,046	-96	.88	-308	.71	2,553
	1459 - MC Unplanned rework			73			-73		
	15 Structures	97	80	82	-17	.83	-2	.97	208
	1501 - Structures Design	97	80	82	-17	.83	-2	.97	208
	1550 - Structures Procurement								-
	16 16 - Coil Services								-
	17 Cryostat and Base	377	368	409	-9	.98	-41	.90	377
	1701-Cryostat&Base Sprt Strct Dsn	377	368	409	-9	.98	-41	.90	377
	1751 - Cryostat Procurement								-
	1752 - Base Support Structure Procurement								-
	18 Field Period Assembly	1,704	1,620	1,648	-84	.95	-28	.98	2,526
	CLOSED 1801-Field Period Assly	61	61	61		1.00	0	1.00	61
	1802 - FP Assy Oversight&Support	483	483	471	0	1.00	12	1.03	718
	1803- FP Assy Tooling/Constructability	673	627	618	-47	.93	8	1.01	933
	1804-FP Assy Measurement	442	450	497	8	1.02	-48	.90	452
	1808 - TF/Mod Coil Sub-Assembly								-
	1810 - Field Period Assembly	46		1	-46		-1		362
	19 1901 - Stellarator Core Mngtt&Integr	1,695	1,697	1,680	2	1.00	17	1.01	2,003
	2 - Plasma Heating, Fueling & Vac Sys	349	349	348		1.00	1	1.00	349
	21 - Fueling Systems								-
	22 - Torus Vacuum Pumping Systems								-
	CLOSED 2001-VPS Gas& Cond Sys Oversight	64	64	63		1.00	1	1.02	64
	CLOSED 2501 - Neutral Beam Refurbishment	285	285	285		1.00	0	1.00	285

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		BCWS	BCWP	ACWP	Sch Var	SPI	Cst Var	CPI	Thru FY06
3	- Diagnostics	591	595	641	5	1.01	-46	.93	770
31	3101 Magnetic Diagnostics	288	293	343	5	1.02	-50	.85	425
36	36 - Edge and Divertor Diagnostics								-
38	38 - Electron Beam (EB) Mapping								-
39	3901 - Diagnostics sys Integration	303	303	299	0	1.00	4	1.01	345
4	- Electrical Power Systems	682	571	703	-111	.84	-132	.81	742
41	4101 - AC Power	107	107	107		1.00	0	1.00	107
43	4301 - DC Systems	292	271	378	-21	.93	-107	.72	314
44	4401 - Control & Protection	55	59	78	4	1.07	-19	.75	55
45	4501 - Power Sys Dsn & Integr	227	133	138	-94	.59	-5	.96	265
46	4601 - FCPC Bldg Mods	1	1	1	0	1.30		1.00	1
5	- Central I&C Systems	33	33	33		1.00	0	1.00	33
51	51 - TCP/IP Infrastructure Systems								-
52	52 - Central Instrumentation & Contro								-
53	53 - Data Acquisition & Fac Computin								-
54	54 - Facility Timing & Synchronizati								-
55	55 - Real Time Plasma & Power Suppl								-
56	56 - Central Safety Interlock Systems								-
58	5801 -Central I&C Integr	33	33	33		1.00	0	1.00	33
6	- Facility Systems	24	24	24		1.00	0	.99	24
	61 - Water Systems								
	6163 - Facility Systems Support FY04	15	15	15		1.00	0	1.01	15
	62 - Cryogenic Systems								-
	63 - Utility Systems								-
	CLOSED 6501 - Facility Systems Integration	9	9	9		1.00	0	.96	9
7	- Test Cell Prep & Machine Assy	897	905	941	8	1.01	-36	.96	915
	CLOSED 7101 - Shield Wall Modif	32	32	33		1.00	-1	.98	32
	7201 - Control Room Walls&Floors								-
	7301 - Platform Design &	71	72	76	1	1.01	-4	.95	71

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		Budgeted Cost		ACWP	VARIANCES				
		BCWS	BCWP		Sch Var	SPI	Cst Var	CPI	
	7401 - TC Prep & Mach Assy Planning	794	801	833	7	1.01	-32	.96	812
	75 Machine Assembly								-
	7501 - Construction Support Crew								-
	7502 - Test Cell Facility Preparations								-
	7503 - Machine Assembly								-
	76 7601 - Tooling Design & Fabrication								-
	8 - Project Oversight & Support	7,266	7,266	7,483	1	1.00	-216	.97	8,665
	81 Project Management and Control	3,439	3,439	3,512	0	1.00	-74	.98	4,126
	8101 - Project Management & Control	2,205	2,205	2,233	0	1.00	-28	.99	2,588
	8102 - NCSX MIE Management ORNL	324	324	327	0	1.00	-3	.99	429
	8998 - Allocations	910	910	952	0	1.00	-42	.96	1,109
	82 Project Engineering	3,357	3,358	3,500	1	1.00	-143	.96	4,069
	8202 - Engr Mgmt & Sys Eng Support	1,863	1,863	1,907		1.00	-44	.98	2,241
	8203 - Design Integration	742	742	733	0	1.00	9	1.01	826
	8204 - Systems Analysis	588	588	695	0	1.00	-106	.85	724
	8205 - Dimensional Control Coord.	164	164	165	0	1.00	-1	.99	278
	84 Project Physics	470	470	470		1.00	0	1.00	470
	CLOSED 8401 - Project Physics	324	324	324		1.00	0	1.00	324
	CLOSED 8402 - Project Physics MIE ORNL	146	146	146		1.00	0	1.00	146
	85 - Integrated Systems Testing								-
	Subtotal	46,323	44,763	46,172	-1,560	.97	-1,409	.97	55,848
	Contingency/Management Reserve								1,295
	Incremental Funding								1,291
	1% hold back on FY06 BA								(172)
	DCMA QA Inspection services								75
	TOTAL PROJECT								58,337
	(1) Reflects accrual increase of \$ 89.78 k based on MTM's earned value report								
	(2) Reflects accrual increase of \$ 42 k based on EIO's earned value report								
	(3) Reflects accrual increase of \$ 24.94 k based on partial delivery of winding clamps								