

**Princeton University Plasma Physics Laboratory
PPPL COST PERFORMANCE REPORT WORKBREAKDOWN STRUCTURE**

NCSX

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

APRIL 2006

ECP 43

		CUMULATIVE TO DATE (from 4/1/03) (k)							Budget Thru FY06
		Budgeted Cost			VARIANCES				
		BCWS	BCWP	ACWP	Sch Var	SPI	Cst Var	CPI	
1 - Stellarator Core Systems		39,168	37,455	38,973	-1,714	.96	-1,518	.96	44,349
12 Vacuum Vessel Systems		8,993	7,941	8,196	-1,052	.88	-255	.97	9,159
CLOSED	1201 - Vacuum Vessel Prelim Dsn	424	424	424	0	1.00	0	1.00	424
CLOSED	1202 - Vacuum Vessel R&D	1,770	1,770	1,771	0	1.00	0	1.00	1,770
	1203 - Vacuum Vessel Final Dsn	1,099	1,052	1,129	-47	.96	-77	.93	1,098
	1204-VV Sys Procurements (non VVSA)	70	34	144	-37	.48	-110	.23	193
CLOSED	1206 - VV Field Weld Joint R&D	16	16	16	1	1.03	0	1.00	16
	1250 - Vacuum Vessel Fabrication	5,614	4,644	4,712	-970	.83	-68	.99	5,658
13 Conventional Coils		2,327	1,956	2,163	-371	.84	-208	.90	2,765
	1301 - TF Design	946	925	969	-21	.98	-45	.95	946
	1302 - PF Design	11	21	21	10	1.94	0	1.01	11
	1303 - Central Solenoid Support Design		86	99	86		-13	.87	
	1350 - TF Coil Fabr Prep	743	502	549	-241	.68	-46	.92	743
	1351 - TF Coil Fabr Supplies	507	371	432	-136	.73	-61	.86	811
	1361 - TF Fabrication	120	51	93	-69	.42	-42	.55	254
	1352 - PF Coil Procurement								-
	1353 - CS Structure Procurement								-
	1354 - Trim Coil Procurement								-
	1355 - WBS 13 I&C Proc & Coil Assy								-
14 Modular Coils		23,700	23,559	24,481	-141	.99	-922	.96	27,311
CLOSED	1401 - Mod Coil Prel.Dsn	304	304	304	0	1.00	0	1.00	304
CLOSED	1402 - Mod.Coil Analyses	239	239	239	0	1.00		1.00	239
	1403 - Modular Coil Final Design (includes job 1404)	3,287	3,200	3,445	-87	.97	-245	.93	3,339
	1416 - Mod Coil Type A&B Final Design	742	511	243	-231	.69	268	2.10	756
CLOSED	1404-MCWF R&D & 1st Prod Casting	2,544	2,544	2,544	0	1.00	0	1.00	2,544
CLOSED	1405-Mod Coil Winding R&D Prep	168	168	168	0	1.00	0	1.00	168
CLOSED	1406 - Mod. Coil Winding Facility	2,247	2,247	2,264	0	1.00	-17	.99	2,247
CLOSED	1407 -Mod Coil Winding Facility	2,546	2,546	2,571	0	1.00	-25	.99	2,546
	1408-Mod Coil Winding Supplies	1,152	1,261	1,292	109	1.09	-31	.98	1,638
CLOSED	1409 - Mod. Coil Test Stand	916	916	862	0	1.00	54	1.06	916
CLOSED	1410 MC Twisted Racetrack Fabr	1,050	1,050	1,052	0	1.00	-2	1.00	1,050

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	1411-MCWF Fabrication S005242	6,416	6,615	6,621	199	1.03	-7	1.00	8,098
CLOSED	1412 - Complete Winding Facilities	537	537	542	0	1.00	-5	.99	537
CLOSED	1413 - Mod Coil Fracture Analysis	28	28	28	0	1.01	0	1.01	28
	1414 - Coil Testing	253	223	400	-30	.88	-177	.56	276
CLOSED	1415 - Dimensional Control Testing	24	24	24	0	.99	0	.99	24
CLOSED	1419 - Winding Facility Modification	48	48	56		1.00	-8	.85	48
	1421 - Mod Coil Interface Hardware								
	1451 - Mod Coil Winding	1,200	1,098	1,675	-102	.92	-576	.66	2,553
	1459 - MC Unplanned rework			150			-150		
15	Structures	147	80	86	-66	.55	-5	.94	208
	1501 - Structures Design	147	80	86	-66	.55	-5	.94	208
	1550 - Structures Procurement								-
16	16 - Coil Services			3			-3		-
17	Cryostat and Base	377	368	420	-9	.98	-52	.88	377
	1701-Cryostat&Base Sprt Strct Dsn	377	368	420	-9	.98	-52	.88	377
	1751 - Cryostat Procurement								-
	1752 - Base Support Structure Procurement								-
18	Field Period Assembly	1,841	1,766	1,855	-75	.96	-89	.95	2,526
CLOSED	1801-Field Period Assly	61	61	65		1.00	-4	.94	61
	1802 - FP Assy Oversight&Support	550	550	535	0	1.00	15	1.03	718
	1803- FP Assy Tooling/Constructability	759	689	712	-70	.91	-23	.97	933
	1804-FP Assy Measurement	442	451	532	10	1.02	-81	.85	452
	1808 - TF/Mod Coil Sub-Assembly								-
	1810 - Field Period Assembly	29	14	11	-15	.49	3	1.27	362
19	1901 - Stellarator Core Mngtt&Integr	1,783	1,785	1,769	1	1.00	16	1.01	2,003
2	Plasma Heating, Fueling & Vac Sys	348	349	348	1	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	1.01	1	1.02	64
CLOSED	2501 - Neutral Beam Refurbishment	285	285	285	1	1.00	0	1.00	285

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3 - Diagnostics		625	633	714	8	1.01	-81	.89	770
31	3101 Magnetic Diagnostics	310	318	408	8	1.03	-90	.78	425
36	36 - Edge and Divertor Diagnostics								-
38	38 - Electron Beam (EB) Mapping								-
39	3901 - Diagnostics sys Integration	315	315	306		1.00	9	1.03	345
4 - Electrical Power Systems		710	578	718	-132	.81	-140	.80	742
41	4101 - AC Power	107	108	107	1	1.01	0	1.00	107
43	4301 - DC Systems	310	272	382	-38	.88	-111	.71	314
44	4401 - Control & Protection	55	59	83	4	1.08	-24	.71	55
45	4501 - Power Sys Dsn & Integr	238	139	144	-99	.58	-6	.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 & Control								-
53	53 - Data Acquisition & Fac Computing								-
54	54 - Facility Timing & Synchronization								-
55	55 - Real Time Plasma & Power Supply								-
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	942	8	1.01	-37	.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	1.02	-4	.95	71

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	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	7,665	7,670	7,993	5	1.00	-323	.96	8,665
81	Project Management and Control	3,635	3,637	3,712	2	1.00	-75	.98	4,126
	8101 - Project Management & Control	2,314	2,315	2,353	1	1.00	-38	.98	2,588
	8102 - NCSX MIE Management ORNL	354	354	362	0	1.00	-8	.98	429
	8998 - Allocations	967	968	997	1	1.00	-30	.97	1,109
82	Project Engineering	3,560	3,563	3,811	3	1.00	-248	.94	4,069
	8202 - Engr Mgmt & Sys Eng Support	1,971	1,972	2,024	1	1.00	-52	.97	2,241
	8203 - Design Integration	766	766	778	0	1.00	-12	.99	826
	8204 - Systems Analysis	627	628	810	1	1.00	-182	.77	724
	8205 - Dimensional Control Coord.	197	197	199	1	1.00	-2	.99	278
84	Project Physics	470	470	470	0	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	0	1.00	0	1.00	146
	85 - Integrated Systems Testing								-
	Subtotal	49,470	47,647	49,744	-1,823	.96	-2,097	.96	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 \$155 k based on MTM's earned value report								
	(2) Reflects accrual increase of \$ 207 k based on EIO's earned value report								