

**Princeton University Plasma Physics Laboratory
PPPL COST PERFORMANCE REPORT WORK BREAKDOWN STRUCTURE**

NCSX

**** Cumulative to date FY03, FY04 , FY05, FY06 and FY07****

MAY 2007

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

ECP 53

		Budgeted Cost				VARIANCES				Budget
		BCWS	BCWP	ACWP		Sch Var	SPI	Cst Var	CPI	Thru FY07
1	- Stellarator Core Systems	53,018	51,692	53,649		-1,326	.97	-1,956	.96	57,483
12	Vacuum Vessel Systems	9,567	9,602	9,753		35	1.00	-151	.98	9,650
	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
	CLOSED 1203 - Vacuum Vessel Final Dsn	1,218	1,218	1,217			1.00	0	1.00	1,218
	CLOSED 1206 - VV Field Weld Joint R&D	16	16	16			1.00	0	.98	16
	CLOSED 1250 - Vacuum Vessel Fabrication	5,808	5,808	5,789			1.00	19	1.00	5,808
	1204-VV Sys Procurements (non VVSA)	332	366	536		35	1.10	-169	.68	414
13	Conventional Coils	3,429	3,232	3,237		-198	.94	-5	1.00	3,967
	CLOSED 1301 - TF Design	970	971	970		1	1.00	1	1.00	971
	1302 - PF Design		3	19		3		-16	.17	70
	CLOSED 1303 - Central Solenoid Support Design	106	117	155		11	1.10	-38	.76	106
	1350 - TF Coil Fabr Prep	547	547	536			1.00	11	1.02	547
	CLOSED 1351 - TF Coil Fabr Supplies	470	470	483		0	1.00	-13	.97	470
	1361 - TF Fabrication	1,336	1,124	1,074		-212	.84	50	1.05	1,803
	1352 - PF Coil Procurement									-
	1353 - CS Structure Procurement									-
	1354 - Trim Coil Procurement									-
	1355 - WBS 13 I&C Proc & Coil Assy									-
14	Modular Coils	33,541	32,698	34,256		-843	.97	-1,557	.95	36,071
	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
	CLOSED 1404-MCWF R&D & 1st Prod Casting	2,543	2,543	2,554			1.00	-11	1.00	2,543
	CLOSED 1405-Mod Coil Winding R&D Prep	168	168	168			1.00		1.00	168
	CLOSED 1406 - Mod. Coil Winding Facility	2,263	2,263	2,263			1.00	0	1.00	2,263
	CLOSED 1407 -Mod Coil Winding Facility	2,571	2,571	2,570			1.00	2	1.00	2,571
	CLOSED 1410 MC Twisted Racetrack Fabr	1,050	1,050	1,050			1.00	0	1.00	1,050
	CLOSED 1412 - Complete Winding Facilities	541	541	541			1.00	0	1.00	541
	CLOSED 1413 - Mod Coil Fracture Analysis	28	28	28			1.00	0	1.01	28
	CLOSED 1409 - Mod. Coil Test Stand	826	826	833			1.00	-7	.99	826
	CLOSED 1414 - Coil Testing	675	675	639			1.00	36	1.06	675

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CLOSED	1415 - Dimensional Control Testing	24	24	24		1.00	0	1.00	24	
CLOSED	1419 - Winding Facility Modification	55	55	48		1.00	7	1.14	55	
	Mod Coil Design Job 1403, 1416	5,471	4,671	4,419	-800	.85	252	1.06	5,617	
	Coil Design Job 1404 Interface Job 1429 Interface R&D/Test	171	111	158	-60	.65	-47	.70	368	
	1408-Mod Coil Winding Supplies	2,113	1,971	2,353	-141	.93	-382	.84	2,245	
	1411-MCWF Fabrication S005242	9,646	9,861	9,966 (1)	215	1.02	-105	.99	9,844	
	1451 - Mod Coil Winding (incl 1459 purchase list and purchase orders)	4,793	4,738	6,042	-56	.99	-1,305	.78	6,650	
CLOSED	1460 - 3rd Winding Fixture	60	60	57	0	.99	3	1.05	60	
15	Structures	256	204	340	-52	.80	-136	.60	348	
	1501 - Structures Design	256	204	336	-52	.80	-132	.61	348	
	1550 - Structures Procurement			4			-4			
16	1601 - Coil Services	18	13	3	-5	.71	10	4.86	23	
17	Cryostat and Base	429	428	431	-1	1.00	-3	.99	514	
	1701-Cryostat design	429	428	431	-1	1.00	-3	.99	380	
	1702-Base Support structure design								133	
	1751 - Cryostat Procurement								-	
	1752 - Base Support Structure Procurement								1	
18	Field Period Assembly	3,636	3,392	3,501	-244	.93	-110	.97	4,678	
CLOSED	1801-Field Period Assy	65	65	64		1.00	0	1.00	65	
	1802 - FP Assy Oversight Support	1,109	1,095	998	-13	.99	98	1.10	1,458	
	1803- FP Assy Tooling/Constructability	962	899	1,142	-62	.94	-243	.79	994	
CLOSED	1804-FP Assy Measurement	564	564	559		1.00	5	1.01	564	
	1805 - FP Assy Hardware & Fixt Procurement	19	2	7	-16	.13	-4	.35	193	
	1806 - FP Assy Specs and Drawings	183	74	27	-108	.41	48	2.81	221	
	1810 - Field Period Assembly	736	691	705	-44	.94	-13	.98	1,183	
19	1901 - Stellarator Core Mngt & Integr	2,141	2,125	2,128	-17	.99	-4	1.00	2,232	
2	Plasma Heating, Fueling & Vac Sys	348	348	348		1.00	0	1.00	348	
	21 - Fueling Systems								-	

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		BCWS	BCWP	ACWP	Sch Var	SPI	Cst Var	CPI	Thru FY07	
	22 - Torus Vacuum Pumping Systems								-	
	<i>CLOSED</i> 2001-VPS Gas& Cond Sys Oversight	64	64	63		1.00	1	1.01	63	
	<i>CLOSED</i> 2501 - Neutral Beam Refurbishment	285	285	285		1.00	0	1.00	285	
	3 - Diagnostics	851	805	957	-46	.95	-152	.84	877	
31	3101 Magnetic Diagnostics	481	435	614	-46	.90	-179	.71	492	
36	36 - Edge and Divertor Diagnostics								-	
38	38 - Electron Beam (EB) Mapping								-	
39	3901 - Diagnostics sys Integration	370	370	343		1.00	27	1.08	385	
	4 - Electrical Power Systems	711	731	720	20	1.03	11	1.02	714	
41	4101 - AC Power	93	109	107	17	1.18	2	1.02	93	
43	4301 - DC Systems	382	383	370	1	1.00	13	1.04	382	
44	4401 - Control & Protection	82	83	81	1	1.01	2	1.03	82	
45	4501 - Power Sys Dsn & Integr	153	155	161	2	1.01	-6	.96	155	
46	4601 - FCPC Bldg Mods	1	1	1		1.00		1.00	1	
	5 - Central I&C Systems	46	46	33		1.00	13	1.38	46	
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 Ctrl								-	
56	56 - Central Safety Interlock Systems								-	
58	5801 -Central I&C Integr	46	46	33		1.00	13	1.38	46	
	6 - Facility Systems	24	24	24		1.00	0	1.01	24	
	61 - Water Systems									
	6163 - Facility Systems Support FY04	15	15	15		1.00	0	1.01	15	
	62 - Cryogenic Systems								-	
	63 - Utility Systems								-	
	<i>CLOSED</i> 6501 - Facility Systems Integration	9	9	9		1.00	0	1.00	9	
	7 - Test Cell Prep & Machine Assy	942	942	963	0	1.00	-22	.98	965	

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		BCWS	BCWP	ACWP	Sch Var	SPI	Cst Var	CPI	
<i>CLOSED</i>	7101 - Shield Wall Modif	33	33	33		1.00	0	1.00	33
	7201 - Control Room Walls Floors								-
	7301 - Platform Design &	76	76	76		1.00	0	1.00	75
	7401 - TC Prep & Mach Assy Planning	833	833	855	0	1.00	-22	.97	857
75	Machine Assembly								-
	7501 - Construction Support Crew								-
	7502 - Test Cell Facility Preparations								-
	7503 - Machine Assembly								-
76	7601 - Tooling Design & Fabrication								-
8	- Project Oversight & Support	10,185	10,153	10,538	-32	1.00	-385	.96	11,086
81	Project Management and Control	4,743	4,735	4,804	-9	1.00	-69	.99	5,127
	8101 - Project Management & Control	2,874	2,879	2,830	5	1.00	49	1.02	3,108
	8102 - NCSX MIE Management ORNL	481	469	554	-13	.97	-85	.85	497
	8998 - Allocations	1,388	1,388	1,420	0	1.00	-32	.98	1,522
82	Project Engineering	4,972	4,948	5,265	-23	1.00	-316	.94	5,488
	8202 - Engr Mgmt & Sys Eng Support	2,584	2,561	2,653	-23	.99	-92	.97	2,798
	8203 - Design Integration	964	964	989	0	1.00	-25	.97	1,097
	8204 - Systems Analysis	1,114	1,114	1,284	0	1.00	-170	.87	1,220
	8205 - Dimensional Control Coord.	280	280	301	0	1.00	-21	.93	333
	8210 - Project Rebaseline Estimating	30	30	38		1.00	-8	.79	40
84	Project Physics	470	470	470		1.00	0	1.00	471
<i>CLOSED</i>	8401 - Project Physics	324	324	324		1.00	0	1.00	325
<i>CLOSED</i>	8402 - Project Physics MIE ORNL	146	146	146		1.00	-1	1.00	146
	85 - Integrated Systems Testing								-
	Subtotal	67,011	65,348	67,862	-1,662	.98	-2,514	.96	74,232
	Contingency set-aside for cumulative cost variance								2,514
	FY07 Contingency free balance								(2,589)
	DCMA QA Inspection services								75
	TOTAL PROJECT								74,232