

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

NCSX

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

FEBRUARY FY05

	CUMULATIVE TO DATE (from 4/1/03) (k)							ECP24 Budget Thru FY05	TEC
	Budgeted Cost		ACWP	VARIANCES					
	BCWS	BCWP		Sch Var	SPI	Cst Var	CPI		
1 - Stellarator Core Systems	20,083	19,400	19,901	-683	.97	-501	.97	29,303	50,894
12 Vacuum Vessel Systems	3,932	3,776	3,935	-156	.96	-159	.96	6,077	8,737
1201 - Vacuum Vessel Prelim Dsn	424	424	424	0	1.00	0	1.00	424	424
1202 - Vacuum Vessel R&D	1,769	1,769	1,771		1.00	-2	1.00	1,769	1,769
1203 - Vacuum Vessel Final Dsn	771	649	788	-122	.84	-139	.82	770	770
1204-VV Sys Procurements (non VVSA)								27	519
1206 - VV Field Weld Joint R&D	11	10	10	-1	.91	0	1.01	210	210
1250 - Vacuum Vessel Fabrication	957	923	942	-34	.96	-19	.98	2,877	5,045
13 Conventional Coils	665	651	667	-14	.98	-17	.98	1,450	4,441
1301 - TF Design	665	651	667	-14	.98	-17	.98	849	738
1302 - PF and CS Design								140	228
1303 - Trim coil Design									99
1351 - TF Coil Fabrication								461	1,595
1352 - PF Coil Procurement									1,285
1353 - CS Structure Procurement									258
1354 - Trim Coil Procurement									146
1355 - WBS 13 I&C Proc & Coil Assy									93
14 Modular Coils	13,205	12,715	13,253	-490	.96	-538	.96	18,260	26,439
1401 - Mod Coil Prel.Dsn	304	303	304	-1	1.00	-1	1.00	303	303
1402 - Mod.Coil Analyses	238	239	239	1	1.00		1.00	239	239
1403 - Modular Coil Final Design	2,451	2,159	2,330	-292	.88	-171	.93	2,676	2,676
1404-MCWF R&D & 1st Prod Casting	2,511	2,513	2,502	2	1.00	11	1.00	2,513	2,513
1405-Mod Coil Winding R&D Prep	168	168	168		1.00	0	1.00	168	168
1406 - Mod. Coil Winding	2,199	2,198	2,208	-1	1.00	-10	1.00	2,200	2,200
1410 MC Twisted Racetrack Fabr	252	136	440	-116	.54	-304	.31	423	423
1407 -Mod Coil Winding Facility	2,564	2,565	2,546	1	1.00	19	1.01	2,565	2,565
1412 - Complete Winding Facilities	243	294	315	51	1.21	-20	.93	303	303
1408-Mod Coil Winding Supplies	142	80	95	-62	.56	-15	.85	766	1,722
1409 - Mod. Coil Test Stand	466	412	456	-54	.88	-44	.90	486	486
1411-MCWF Fabrication S005242	1,667	1,648	1,651	-19	.99	-3	1.00	4,638	8,378
1431 - Modular Coil Local I&C									120
1451 - Mod Coil Winding								979	4,342
15 Structures	55	54	34	-1	.98	20	1.59	224	1,381
1501 - Structures Design	55	54	34	-1	.98	20	1.59	224	224
1550 - Structures Procurement									1,156
16 16 - Coil Services									1,036
17 Cryostat and Base	192	152	155	-40	.79	-3	.98	267	1,321
1701-Cryostat&Base Sprt Strct Dsn	192	152	155	-40	.79	-3	.98	267	481

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1751 - Cryostat Procurement									509
1752 - Base Support Structure Procurement									330
18 Field Period Assembly	854	860	720	6	1.01	140	1.19	1,490	5,118
1801-Field Period Assly	61	61	61		1.00	0	1.00	61	61
1802 - FP Assy Oversight&Support	294	294	222	0	1.00	72	1.33	409	954
1803- FP Assy Toolg/Constructability	142	163	131	21	1.15	32	1.24	606	1,200
1804-FP Assy Measurement	357	342	306	-15	.96	36	1.12	415	476
1808 - TF/Mod Coil Sub-Assembly									697
1810 - Field Period Assembly									1,731
19 1901 - Stellarator Core Mngtt&Integr	1,180	1,192	1,137	12	1.01	55	1.05	1,534	2,421
2 - Plasma Heating,Fueling & Vac Sys	366	369	347	3	1.01	22	1.06	369	780
21 - Fueling Systems									81
22 - Torus Vacuum Pumping Systems									330
2001-VPS Gas& Cond Sys Oversight	59	60	63	1	1.02	-3	.96	60	60
2501 - Neutral Beam Refurbishment	307	309	284	2	1.01	25	1.09	309	309
3 - Diagnostics	264	280	260	16	1.06	19	1.07	502	1,117
# 3101 Magnetic Diagnostics		20	15	20		5	1.34	201	414
# 36 - Edge and Divertor Diagnostics									43
38 38 - Electron Beam (EB) Mapping									291
39 3901 - Diagnostics sys Integration	264	260	246	-4	.98	14	1.06	301	369
4 - Electrical Power Systems	487	382	299	-105	.78	83	1.28	709	3,216
41 4101 - AC Power	158	157	81	-1	1.00	77	1.95	157	485
43 4301 - DC Systems	149	65	55	-84	.44	10	1.19	239	446
44 4401 - Control & Protection	1	1	24	0	1.00	-23	.04	1	1,216
45 4501 - Power Sys Dsn & Integr	178	157	138	-21	.88	19	1.14	310	1,068
46 4601 - FCPC Bldg Mods	1	1	1	0	1.02		1.00	1	1
5 - Central I&C Systems	29	29	33		1.00	-4	.89	37	1,917
51 51 - TCP/IP Infrastructure Systems									265
52 52 - Central Instrumentation & Control									571
53 53 - Data Acquisition & Fac Computing									328
54 54 - Facility Timing & Synchronization									207
55 55 - Real Time Plasma & Power Supply									151
56 56 - Central Safety Interlock Systems									358
58 5801 -Central I&C Integr	29	29	33		1.00	-4	.89	37	37
6 - Facility Systems	41	42	24	1	1.01	17	1.72	42	825
61 61 - Water Systems									240
6163 - Facility Systems Support FY04	32	32	15	0	1.01	17	2.17	32	32
# 62 - Cryogenic Systems									440

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		Budgeted Cost			VARIANCES					
#		BCWS	BCWP	ACWP	Sch Var	SPI	Cst Var	CPI		
63	63 - Utility Systems									103
#	6501 - Facility Systems Integration	9	9	9	0	1.04	0	1.00	9	9
7	- Test Cell Prep & Machine Assy	462	448	478	-14	.97	-30	.94	723	4,211
#	7101 - Shield Wall Modif	32	32	32	0	1.00		1.00	32	32
72	7201 - Control Room Walls&Floors								50	50
73	7301 - Platform Design &								92	161
74	7401 - TC Prep & Mach Assy Planning	430	416	446	-14	.97	-30	.93	549	1,506
75	Machine Assembly								-	2,239
	7501 - Construction Support Crew									1,003
	7502 - Test Cell Facility Preparations									53
	7503 - Machine Assembly									1,183
76	7601 - Tooling Design & Fabrication									223
8	- Project Oversight & Support	4,904	4,906	4,942	2	1.00	-37	.99	6,270	10,637
81	Project Management and Control	2,203	2,203	2,246		1.00	-43	.98	2,867	4,579
	8101 - Project Management & Control	1,535	1,535	1,551		1.00	-16	.99	1,952	3,090
	8102 - NCSX MIE Management ORNL	218	218	184		1.00	34	1.18	274	360
	8998 - Allocations	450	450	511		1.00	-60	.88	641	1,129
82	Project Engineering	2,233	2,233	2,227		1.00	6	1.00	2,933	4,368
	8202 - Engr Mgmt & Sys Eng Support	1,248	1,248	1,257		1.00	-9	.99	1,644	2,662
	8203 - Design Integration	623	623	629		1.00	-7	.99	717	1,089
	8204 - Systems Analysis	355	355	335		1.00	20	1.06	513	617
	8205 - Dimensional Control Coord.	7	7	5		1.00	1	1.27	58	
84	Project Physics	468	470	470	2	1.00	0	1.00	470	1,691
	8401 - Project Physcis	322	324	324	2	1.01	0	1.00	324	324
	8402 - Project Physics MIE ORNL	146	146	146		1.00	0	1.00	146	146
	85 - Integrated Systems Testing									1,221
	Subtotal	26,637	25,856	26,285	-781	.97	-430	.98	37,955	73,597
	Contingency/Management Reserve								3,300	12,756
	TOTAL PROJECT								41,255	86,352