

PrincetonUniversity Plasma Physics Laboratory
PPPL COST PERFORMANCE REPORT WORKBREAKDOWN STRUCTURE
NCSX

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

MAY FY05

									Variance Explanation	
CUMULATIVE TO DATE (from 4/1/03) (k)										
Budgeted Cost			VARIANCES					ECP30 Budget		
BCWS	BCWP	ACWP	Sch Var	SPI	Cst Var	CPI		Thru FY05	Schedule	Cost
1 - Stellarator Core Systems										
	23,931	22,676	23,684	-1,254	.95	-1,007	.96	29,403		
12 Vacuum Vessel Systems										
	5,406	4,656	4,699	-751	.86	-43	.99	7,302		
CLOSED 1201 - Vacuum Vessel Prelim Dsn	424	424	424	0	1.00	0	1.00	424		
CLOSED 1202 - Vacuum Vessel R&D	1,791	1,791	1,771	0	1.00	21	1.01	1,791		
1203 - Vacuum Vessel Final Dsn	915	846	879	-69	.92	-33	.96	944	<div>Final design tasks; Heater tape dsn, mag diag interface dwgs, thermal insulation. July 1st FDR IN JEOPARDY DUE TO MANPOWER.</div> <div>Award of cooling tubing and manifolds now forecasted to slip to September.</div>	
1204-VV Sys Procurements (non VVS/								257		
1206 - VV Field Weld Joint R&D	12	11	16	0	.96	-5	.71	19		
1250 - Vacuum Vessel Fabrication	2,265	1,583	1,609 (1)	-682	.70	-27	.98	3,867	<div>Behind in fabricating the 120deg fixture and fabr of the production panels (1 month behind on FP#1 and 2 months behind on FP#2). However MTM is still forecastinmg 1st delivery by Nov 05 (?)</div> <div>ORNL Title III oversight</div>	
13 Conventional Coils										
	981	913	990	-68	.93	-78	.92	1,677		
1301 - TF Design	837	779	835	-59	.93	-57	.93	837	<div>Successful conductor FDR held in May. Comprehensive FDR slipped another month to July 8th.</div> <div>Underestimated Rushinski by factor of 3 due to redeisgn of leads.</div>	
1350 - TF Coil Fabr Prep	83	134	155	51	1.62	-21	.86	381		
1351 - TF Coil Fabrication	61			-61				459	<div>LOE Title III oversight of the TF procurements and fabrication. Late start due to 2 month delay in the FDR.</div> <div>Technician time for setting up fabr facility overan by factor of 2.</div>	
14 Modular Coils										
	15,030	14,639	15,450	-391	.97	-811	.95	17,135		
CLOSED 1401 - Mod Coil Prel.Dsn	303	303	304	0	1.00	-1	1.00	303		
CLOSED 1402 - Mod.Coil Analyses	239	239	239	0	1.00		1.00	239		
1403 - Modular Coil Final Design	2,837	2,625	2,739	-212	.93	-114	.96	3,141	<div>FDR will be held by June 30th on components details. This will permit start of fabrication. HOWEVER,some assy drawings and analyses will not be completed until July.</div> <div>Manpower under estimated.</div>	
CLOSED 1404-MCWF R&D & 1st Prod Casting	2,534	2,534	2,554	0	1.00	-20	.99	2,534		
CLOSED 1405-Mod Coil Winding R&D Prep	168	168	168		1.00	0	1.00	168		
CLOSED 1406 - Mod. Coil Winding	2,214	2,214	2,245	0	1.00	-31	.99	2,214		

PrincetonUniversity Plasma Physics Laboratory
PPPL COST PERFORMANCE REPORT WORKBREAKDOWN STRUCTURE
NCSX

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

MAY FY05

				CUMULATIVE TO DATE (from 4/1/03) (k)				ECP30		Variance Explanation		
Budgeted Cost				ACWP	VARIANCES				Budget		Schedule	Cost
BCWS	BCWP		Sch Var		SPI	Cst Var	CPI	Thru FY05				
	1410 MC Twisted Racetrack Fabr	752	721	868	-31	.96	-147	.83		799	One month slip in the VPI operation (application of outer bag re-enforcement a.k.a cotton-candy)(UPDATE;successful VPI completed June 8th). Testing to be complete by July 5 and dissection by July 12th.	Unplanned overtime and time expended on developing a new approach for installing the outer bag re-enforcement.
CLOSED	1407 -Mod Coil Winding Facility	2,523	2,523	2,546	0	1.00	-23	.99		2,523		
	1412 - Complete Winding Facilities	310	310	466	-1	1.00	-156	.67		310		Continued cost variance due to modifications and punch list tasks in response to experienced gained in TRC fab. (+89)
	1408-Mod Coil Winding Supplies	308	309	347	1	1.00	-38	.89		596		Tom Meighan support (CC orders ?) not estimated.
	1409 - Mod. Coil Test Stand	472	429	686	-43	.91	-257	.62		488	Ready for TRC testing by June 13th. Month slip but still supports TRC schedule due to slip in TRC fab.	Gettelfinger engr oversight underestimated by factor of 5. 2 mm of design support not estimated.
	1411-MCWF Fabrication S005242	2,296	2,236	2,265 (2)	-60	.97	-29	.99		3,420	Pattern B only 20% complete. Machining on C-1 continuing (65% complete). C-1 delivery now forecasted July 7th.	
	1413 - Mod Coil Fracture Analysis	23	23	22	0	1.00	2	1.07		23		
	1451 - Mod Coil Winding	51	6	1	-44	.12	5	7.01		377	LOE winding oversight/supervision for winding prep delayed consistent with slippage in MCWF C-1 delivery, completion of TRC, and component fab.	
	15 Structures	35	35	34	0	1.00	1	1.03		35		
	1501 - Structures Design	35	35	34	0	1.00	1	1.03		35		
	16 16 - Coil Services									-		
	17 Cryostat and Base	194	189	272	-5	.97	-83	.69		241		
	1701-Cryost&Base Sprt Strct Dsn	194	189	272	-5	.97	-83	.69		241	PDR for Base support structure slipped from June 15 to July 15.	Designer support underestimated by factor of 2. 1 1/2 MM of analysis (Dahlgren) req'd but not estimated.
	1751 - Cryostat Procurement									-		
	1752 - Base Support Structure Procure									-		
	18 Field Period Assembly	1,028	988	963	-39	.96	25	1.03		1,512		
CLOSED	1801-Field Period Assly	61	61	61	0	1.00	0	.99		61		
	1802 - FP Assy Oversight&Support	260	260	293	0	1.00	-33	.89		311		HP charging greater than the 75% budgeted plus OT to support the TRC fabrication.

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

NCSX

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

MAY FY05

										Variance Explanation	
CUMULATIVE TO DATE (from 4/1/03) (k)											
Budgeted Cost			VARIANCES						ECP30 Budget		
BCWS	BCWP	ACWP	Sch Var	SPI	Cst Var	CPI				Thru FY05	
1803- FP Assy Toolg/Constructability	375	336	264	-39	.89	72	1.27				758
1804-FP Assy Measurement	331	331	345	0	1.00	-13	.96				382
19 1901 - Stellarator Core Mngtt&Int	1,258	1,257	1,275	-1	1.00	-17	.99				1,502
2 - Plasma Heating,Fueling & Vac	348	347		0	1.00	1	1.00				348
CLOSED 2001-VPS Gas& Cond Sys Oversight	64	64	63	0	1.00	1	1.01				64
CLOSED 2501 - Neutral Beam Refurbishment	284	284	284	0	1.00	0	1.00				284
3 - Diagnostics	333	300	320	-33	.90	-20	.94				493
31 3101 Magnetic Diagnostics	69	36	64	-33	.52	-28	.56				206
36 36 - Edge and Divertor Diagnosti											-
38 38 - Electron Beam (EB) Mapping											-
39 3901 - Diagnostics sys Integratio	264	264	256	0	1.00	8	1.03				287
4 - Electrical Power Systems	462	374	373	-88	.81	1	1.00				614
41 4101 - AC Power	81	81	81	0	1.00	1	1.01				81
43 4301 - DC Systems	143	131	129	-11	.92	3	1.02				233
44 4401 - Control & Protection	1	1	24	0	1.00	-23	.04				1
45 4501 - Power Sys Dsn & Integr	236	159	138	-77	.67	20	1.15				298
46 4601 - FCPC Bldg Mods	1	1	1	0	1.02		1.00				1
5 - Central I&C Systems	36	36	33	0	1.00	3	1.09				40
58 5801 -Central I&C Integr	36	36	33	0	1.00	3	1.09				40
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											-
CLOSED 6501 - Facility Systems Integratic	9	9	9		1.00	0	1.00				9

VV suprt fixture originally planned for mid-May. No forecast. Half period assy fix PDR planned for end may. Both behind on structural/seismic analysis and metrology layouts. Schedule improved from last month.

Fabrication of MC co-wound loops not yet started. Engr ytd (Labik) double what was estimated for work scope completed. . Request Stratton to prep revised estimate.

Power systems design continues to slip. PDR now scheduled for July 15. RAKI HAS BEEN AVAILABLE ONLY 30% TO NCSX COMPARED TO 70% REQUESTED.

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

NCSX

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

MAY FY05

		CUMULATIVE TO DATE (from 4/1/03) (k)							ECP30		Variance Explanation	
		Budgeted Cost		ACWP	VARIANCES				Budget			
		BCWS	BCWP		Sch Var	SPI	Cst Var	CPI	Thru FY05		Schedule	Cost
7 - Test Cell Prep & Machine Assy		624	602	575	-22	.96	27	1.05			725	
CLOSED	7101 - Shield Wall Modif	32	32	32	0	1.00		1.00			32	
	7201 - Control Room Walls&Floo	48			-48						48	On hold awaiting FED. The control room walls have been determined to be a GPP project.. The budgeted amount of \$39.6k will be redistributed TBD. No schedul impact.
	7301 - Platform Design &	7	66		59	9.12	66				70	Work on nut plates started ahead of plan.
	7401 - TC Prep & Mach Assy Plar	537	504	543	-33	.94	-39	.93			575	
75 Machine Assembly											-	
76 7601 - Tooling Design & Fabricat											-	
8 - Project Oversight & Support		5,542	5,542	5,533		1.00	10	1.00			6,348	
81 Project Management and Control		2,535	2,535	2,545		1.00	-10	1.00			2,934	
	8101 - Project Management & Control	1,724	1,724	1,737		1.00	-13	.99			1,969	
	8102 - NCSX MIE Management ORNL	209	209	207		1.00	2	1.01			242	
	8998 - Allocations	602	602	601		1.00	1	1.00			724	
82 Project Engineering		2,537	2,537	2,517		1.00	20	1.01			2,943	
	8202 - Engr Mgmt & Sys Eng Support	1,419	1,419	1,394		1.00	25	1.02			1,634	
	8203 - Design Integration	669	669	658		1.00	11	1.02			722	
	8204 - Systems Analysis	401	401	413		1.00	-11	.97			490	
	8205 - Dimensional Control Coord.	48	48	52		1.00	-4	.92			97	
84 Project Physics		470	470	470		1.00	0	1.00			470	
CLOSED	8401 - Project Physcis	324	324	324		1.00	1	1.00			324	
CLOSED	8402 - Project Physics MIE ORNL	146	146	146		1.00	-1	1.00			146	
85 - Integrated Systems Testing											-	
Subtotal		31,301	29,903	30,889	-1,398	.96	-986	.97			37,996	
Contingency/Management Reserve											3,247	
DCMA QA Inspection services											75	
TOTAL PROJECT											41,318	

(1) Reflects add'l accrual of \$230k based on vendor's May earned value report

(2) Reflects accrual reduction of \$293k based on vendor's May earned value report