

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

NCSX

JANUARY 2007

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

JANUARY 2007

ECP 53

Variance Explanation

	CURRENT MONTH			CUMULATIVE TO DATE (from 4/1/03) (k)							Budget Thru FY07	Variance Explanation		
	BCWS	BCWP	ACWP	Budgeted Cost			VARIANCES					Schedule	Cost	
				BCWS	BCWP	ACWP	Sch Var	SPI	Cst Var	CPI				
1 - Stellarator Core Systems				48,161	48,458	50,146		298	1.01	-1,688	.97	57,483		
12 Vacuum Vessel Systems				9,558	9,558	9,642		0	1.00	-84	.99	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	5,815			1.00	-7	1.00	5,808		
1204-VV Sys Procurements (non VVSA)	-3	-3	6	323	323	400	0	1.00	-77	.81	414		Pre-existing cost variance attributed to the purchase of the titanium rod ends for	
13 Conventional Coils				3,170	3,129	3,110		-41	.99	19	1.01	3,967		
CLOSED 1301 - TF Design				970	971	970	1	1.00	1	1.00	971			
1302 - PF Design						19				-19		70		
1303 - Central Solenoid Support Design	-11			106	117	155	11	1.10	-38	.76	106		Pre-existing cost variance.	
1350 - TF Coil Fabr Prep				547	547	536		1.00	11	1.02	547			
1351 - TF Coil Fabr Supplies				470	461	463	-9	.98	-2	1.00	470			
1361 - TF Fabrication	97	47	54	1,077	1,033	967	-44	.96	66	1.07	1,803			
1352 - PF Coil Procurement											-			
1353 - CS Structure Procurement											-			
14 Modular Coils				29,957	30,273	31,781		316	1.01	-1,508	.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	0	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			
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 Coil Design, Job 1421 Interface design	13	136	30	4,251	4,228	4,192	-23	.99	36	1.01	5,617			
Job 1429 Interface R&D/Test	90	93	66	90	93	66	4	1.04	27	1.41	368			
1408-Mod Coil Winding Supplies	3	61	73	1,801	1,830	2,204	29	1.02	-374	.83	2,245	All major hardware delivered. Clamps mods, strain gages, Thermocouples, and data controller remain.	Pre-existing cost variance. Inconel studs unplanned \$48k, Type B cladding/CP \$47k, Misc supplies on credit card \$132k, misc tech shop labor for mods.	
1411-MCWF Fabrication S005242	-216	303	294	8,907	9,204	9,258	297	1.03	-54	.99	9,844			
1451 - Mod Coil Winding (incl 1459 punch list and unplanned work)	338	309	299	3,560	3,571	4,743	11	1.00	-1,172	.75	6,650	total float 4 3/4 months.	Cum CPI improvement from January (.73 to .75).	

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Variance Explanation

	CURRENT MONTH			CUMULATIVE TO DATE (from 4/1/03) (k)								Budget Thru FY07	VARIANCES	
	BCWS	BCWP	ACWP	Budgeted Cost			VARIANCES				Schedule		Cost	
				BCWS	BCWP	ACWP	Sch Var	SPI	Cst Var	CPI				
1460 - 3rd Winding Fixture	14	-3	6	60	60	57		0	.99	3	1.05	60		
15 Structures				117	144	189		27	1.23	-45	.76	348		
1501 - Structures Design	-43	17	42	117	144	185	27	1.23	-41	.78	348		?	
1550 - Structures Procurement						4				-4				
16 1601 - Coil Services				3	3	3			1.00	0	1.07	23		
17 Cryostat and Base				425	425	417			1.00	8	1.02	514		
1701-Cryostat design				425	425	417		1.00	8	1.02	380			
1702-Base Support structure design											133			
1751 - Cryostat Procurement											-			
1752 - Base Support Structure Procurement											1			
18 Field Period Assembly				2,857	2,853	2,949		-4	1.00	-96	.97	4,678		
CLOSED 1801-Field Period Assy				65	65	64		1.00	0	1.00	65			
1802 - FP Assy Oversight Support	85	85	33	910	910	829	0	1.00	81	1.10	1,458			
1803- FP Assy Tooling/Constructability	-134	-4	21	830	863	1,051	33	1.04	-188	.82	994		?	
1804-FP Assy Measurement	12	13		564	564	559		1.00	5	1.01	564			
1805 - FP Assy Hardware & Fixt Procurement	-28			3	2	7	-1	.73	-4	.35	193			
1806 - FP Assy Specs and Drawings	36	-15	1	73	22	18	-51	.30	4	1.19	221			
1810 - Field Period Assembly plus 1859 unplanned work	85	155	59	413	427	421	15	1.04	6	1.01	1,183			
19 1901 - Stellarator Core Mngt & Integr	32	17	22	2,073	2,073	2,054	0	1.00	19	1.01	2,232			
2 - Plasma Heating, Fueling & Vac Sys				348	348	348			1.00	0	1.00	348		
CLOSED 2001-VPS Gas& Cond Sys Oversight				64	64	63		1.00	1	1.01	63			
CLOSED 2501 - Neutral Beam Refurbishment				285	285	285		1.00	0	1.00	285			
3 - Diagnostics				803	757	843		-46	.94	-86	.90	877		
31 3101 Magnetic Diagnostics	9	3	13	449	402	509	-47	.90	-107	.79	492	Saddle loop termination box fabrication not started. Mod coil co-wound loops not yet completed.	?	
39 3901 - Diagnostics sys Integration	2	3	4	355	355	334	1	1.00	21	1.06	385			
4 - Electrical Power Systems				706	724	719		18	1.03	6	1.01	714		
41 4101 - AC Power	-15	1		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			3	148	148	160		1.00	-12	.93	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		
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		
6163 - Facility Systems Support FY04				15	15	15		1.00	0	1.01	15			
CLOSED 6501 - Facility Systems Integration				9	9	9		1.00	0	1.00	9			
7 - Test Cell Prep & Machine Assy				942	942	953		0	1.00	-11	.99	965		
CLOSED 7101 - Shield Wall Modif				33	33	33		1.00	0	1.00	33			
7301 - Platform Design &				76	76	76		1.00	0	1.00	75			
7401 - TC Prep & Mach Assy Planning				833	833	844	0	1.00	-11	.99	857			
8 - Project Oversight & Support				9,612	9,620	9,816		8	1.00	-196	.98	11,086		
81 Project Management and Control				4,492	4,492	4,556		1.00	-63	.99	5,127			

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Variance Explanation

BCWS BCWP ACWP

Budgeted Cost

VARIANCES

Budget

Thru FY07

Schedule Cost

BCWS BCWP ACWP

BCWS BCWP ACWP

Sch Var SPI Cst Var CPI

Budget Thru FY07

Schedule

Cost

8101 - Project Management & Control	25	25	27	2,730	2,730	2,717		1.00	13	1.00	3,108		
8102 - NCSX MIE Management ORNL	12	12	21	459	459	503		1.00	-44	.91	497		
8998 - Allocations	22	22	22	1,303	1,303	1,336		1.00	-33	.98	1,522		
82 Project Engineering				4,650	4,658	4,790	8	1.00	-132	.97	5,488		
8202 - Engr Mgmt & Sys Eng Support	46	37	38	2,436	2,436	2,475	0	1.00	-39	.98	2,798		
8203 - Design Integration	19	20	13	915	915	921	0	1.00	-6	.99	1,097		
8204 - Systems Analysis	23	23	33	1,051	1,051	1,150	0	1.00	-99	.91	1,220		
8205 - Dimensional Control Coord.	3	10	2	249	256	244	7	1.03	12	1.05	333		
8206 - Project Rebaseline Estimating											40		
84 Project Physics				470	470	470		1.00	0	1.00	471		
CLOSED 8401 - Project Physics				324	324	324		1.00	0	1.00	325		
CLOSED 8402 - Project Physics MIE ORNL				146	146	146		1.00	-1	1.00	146		
Subtotal	517	1,363	1,185	60,641	60,919	62,881	278	1.00	-1,962	.97	71,541		
Contingency set-aside for cumulative cost variance											1,962		
FY07 Contingency free balance											654		
DCMA QA Inspection services											75		
TOTAL PROJECT											74,232		

Thru FY2004				20,640	19,652	19,744	-988	0.95	-92	1.00	74,232		
Thru Oct				20,637	20,832	20,917	195	1.01	-85	1.00			
Thru NOVEMBER				21,812	21,906	22,158	94	1.00	-252	0.99			
Thru DECEMBER				23,813	23,042	23,434	-771	0.97	-392	0.98			
Thru JANUARY (ecp-21)				25,866	24,310	24,639	-1556	0.94	-329	0.99			Free Balance Contingency (%)
Thru Feb (ecp-24)				26,637	25,856	26,285	-781	0.97	-429	0.98			
Thru Mar (ecp-29)				28,440	27,282	28,004	-1158	0.96	-722	0.97			
Thru Apr (ecp-30)				29,588	28,736	29,416	-852	0.97	-680	0.98			
Thru May (ecp-30)				31,301	29,903	30,889	-1398	0.96	-986	0.97			
Thru June (ecp-30)				32,740	31,362	32,719	-1378	0.96	-1357	0.96			
Thru July (ecp-36)				35,206	33,682	34,276	-1524	0.96	-594	0.98			
Thru Aug (ecp-36)				36,914	35,480	36,416	-1434	0.96	-936	0.97			
Thru Sep (ecp-36)	Thru Sep (ecp-36)			38,562	36,721	38,314	-1841	0.95	-1593	0.96	BCWR	Conting.	
PARS for OCT				1,710	3,061	1,485	-90	0.94	-17	0.98			
Thru Oct (ecp-39)				40,272	39,782	39,799	-490	0.99	-17	1.00	42,943	9,600	22.4%
PARS for NOV				1,673	1,060	1,394	-613	0.63	-334	0.76			22.3%
Thru NOV (ecp-39)				41,945	40,842	41,193	-1103	0.97	-351	0.99	41,883	9,600	22.9%
PARS for DEC				1,274	896	1,331	-378	0.70	-435	0.67			22.1%
Thru DEC (ecp-39)				43,219	41,738	42,524	-1481	0.97	-786	0.98	40,987	9,600	23.4%
PARS for JAN				1,633	1,594	1,647	-39	0.98	-53	0.97			21.5%
Thru JAN (ecp-39)				44,852	43,332	44,171	-1520	0.97	-839	0.98	39,393	9,600	24.4%
PARS for FEB				1,471	1,431	2,001	-40	0.97	-570	0.72			22.2%
Thru FEB (ecp-39)				46,323	44,763	46,172	-1560	0.97	-1409	0.97	37,962	9,600	25.3%
PARS for MAR				1,900	1,587	1,860	-313	0.84	-273	0.85			21.6%
Thru MAR (ecp-043)				48,223	46,350	48,032	-1873	0.96	-1682	0.96	37,255	8,720	23.4%

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Budgeted Cost

VARIANCES

Budget

Thru FY07

Schedule

Cost

BCWS	BCWP	ACWP	Sch Var	SPI	Cst Var	CPI
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	BCWS	BCWP	ACWP	Sch Var	SPI	Cst Var	CPI	Budget Thru FY07	Schedule	Cost
<i>PARS for APR</i>	1,247	1,297	1,712	50	1.04	-415	0.76			18.9%
Thru APR (ecp-043)	49,470	47,647	49,744	-1823	0.96	-2097	0.96	35,958	8,720	24.3%
<i>PARS for MAY</i>	1,025	2,238	1,661	1213	2.18	577	1.35			18.4%
Thru MAY (ECP-45)	50,495	49,885	51,405	-610	0.99	-1520	0.97	34,269	8,171	23.8%
<i>PARS for JUNE</i>	1,375	1,367	1,581	-8	0.99	-214	0.86			19.4%
Thru June (ECP-45)	51,870	51,252	52,986	-618	0.99	-1734	0.97	32,902	8,171	24.8%
<i>PARS for JULY</i>	1,563	1,751	1,629	188	1.12	123	1.08			19.6%
Thru July (ECP-49 & 50)	53,433	53,003	54,615	-430	0.99	-1611	0.97	31,448	7,874	25.0%
<i>PARS for AUG</i>	1,912	1,323.6	1,315.5	-588	0.69	8	1.01			19.9%
Thru August (ECP 49 & 50)	55,345	54,327	55,930	-1018	0.98	-1603	0.97	30,124	7,874	26.1%
<i>PARS for SEP</i>	1,290	1,288	1,457	-2	1.00	-169	0.88			20.8%
Thru September (ECP49 & 50)	56,635	55,615	57,387	-1020	0.98	-1772	0.97	28,836	7,874	27.3%
FY06 subtotal=	18,073	17,301	19,073	-772	0.96	-1772	0.91			21.2%
<i>PARS for OCT</i>	951	1,855	1,323	904	1.95	532	1.40			
Thru October (ECP 52)	57,586	57,470	58,710	-116	1.00	-1240	0.98	28,304	6,627	23.4%
<i>PARS for NOV</i>	1,499	1,161	1,559	-338	0.77	-398	0.74			19.0%
Thru November (ECP 52)	59,085	58,631	60,269	-454	0.99	-1638	0.97	27,143	6,627	24.4%
<i>PARS for DEC</i>	1,039	925	1,427	-114	0.89	-502	0.65			18.4%
Thru December (ECP 52)	60,124	59,556	61,696	-568	0.99	-2140	0.97	26,218	6,627	25.3%
<i>PARS for JAN</i>	517	1,363	1,185	846	2.64	178	1.15			17.1%
Thru January (ECP 53)	60,641	60,919	62,881	278	1.00	-1962	0.97	25,374	6,033	23.8%
										16.0%

