

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

NCSX

APRIL 2007

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

APRIL 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				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)	3	31	30	332	366	536	35	1.10	-169	.68	414		Cum variance due to unbudgeted shop work on saddle parts, Grafoil gaskets, thermocouple pads, braket stops.	
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			3	19	3		-16	.17	70			
CLOSED 1303 - Central Solenoid Support Design				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			
CLOSED 1351 - TF Coil Fabr Supplies				470	470	483	0	1.00	-13	.97	470			
1361 - TF Fabrication	86	17	30	1,336	1,124	1,074	-212	.84	50	1.05	1,803		First TF Coil delivery slipped to June (baseline delivery Feb 07). Difficulties with dimensional control and installing in mold.. No impact to critical path.	
1352 - PF Coil Procurement														
1353 - CS Structure Procurement														
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			
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	401	98	62	5,471	4,671	4,419	-800	.85	252	1.06	5,617		Interface design and shim procurement. Interface FDR forecast end of June (baseline date 4/24). Delays start of field period assy to September. Project critical path now has 1 1/2 mo. float.	
Job 1429 Interface R&D/Test	17		22	171	111	158	-60	.65	-47	.70	368			
1408-Mod Coil Winding Supplies	46	45	29	2,113	1,971	2,353	-141	.93	-382	.84	2,245			

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		BCWS	BCWP	ACWP	Budgeted Cost			VARIANCES				Budget Thru FY07		Schedule	Cost
					BCWS	BCWP	ACWP	Sch Var	SPI	Cst Var	CPI				
	1411-MCWF Fabrication S005242	182	235	223	9,646	9,861	9,966 (1)	215	1.02	-105	.99	9,844			
	1451 - Mod Coil Winding (incl 1459 punch list and unplanned work)	392	397	370	4,793	4,738	6,042	-56	.99	-1,305	.78	6,650		CPI for April = 1.07	
	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	45	3	51	256	204	336	-52	.80	-132	.61	348	PDR planned for late April now slipped to end May early June		
	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			1	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	68	63	76	1,109	1,095	998	-13	.99	98	1.10	1,458			
	1803- FP Assy Tooling/Constructability	23		20	962	899	1,142	-62	.94	-243	.79	994	Station 3 design slipped from March to end of May.	Designer time underestimated.	
	CLOSED 1804-FP Assy Measurement				564	564	559		1.00	5	1.01	564			
	1805 - FP Assy Hardware & Fixt Procurement	15			19	2	7	-16	.13	-4	.35	193			
	1806 - FP Assy Specs and Drawings	24	35		183	74	27	-108	.41	48	2.81	221	Stage 2,3 and 5 specifications & drawings. Critical to beginning stage 2 operations.Efforts diverted to the Interface design.		
	1810 - Field Period Assembly plus 1859 unplanned work	72	47	95	736	691	705	-44	.94	-13	.98	1,183			
19	1901 - Stellarator Core Mngt & Integr	23	17	30	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			
	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				851	805	957		-46	.95	-152	.84	877		
31	3101 Magnetic Diagnostics	2	5	31	481	435	614	-46	.90	-179	.71	492			
39	3901 - Diagnostics sys Integration	5	5	3	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	2			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			
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	963		0	1.00	-22	.98	965		

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		BCWS	BCWP	ACWP	Budgeted Cost			VARIANCES					Schedule	Cost
					BCWS	BCWP	ACWP	Sch Var	SPI	Cst Var	CPI			
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			10		833	833	855	0	1.00	-22	.97	857		
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	48	50	44		2,874	2,879	2,830	5	1.00	49	1.02	3,108		
8102 - NCSX MIE Management ORNL	19	7	17		481	469	554	-13	.97	-85	.85	497		
8998 - Allocations	30	27	30		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	50	42	64		2,584	2,561	2,653	-23	.99	-92	.97	2,798		
8203 - Design Integration	16	16	24		964	964	989	0	1.00	-25	.97	1,097		
8204 - Systems Analysis	21	21	38		1,114	1,114	1,284	0	1.00	-170	.87	1,220		
8205 - Dimensional Control Coord.	11	5	17		280	280	301	0	1.00	-21	.93	333		
8210 - Project Rebaseline Estimating	10	10	15		30	30	38		1.00	-8	.79	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		1,614	1,188	1,335	66,125	64,741	67,231	-1,383	.98	-2,490	.96	71,541		
Contingency set-aside for cumulative cost variance												2,490		
FY07 Contingency free balance												125		
DCMA QA Inspection services												75		
TOTAL PROJECT												74,232		
(1) Over accrued by \$61k based on vendors earned value report.														
												74,232		
Thru FY2004					20,640	19,652	19,744	-988	0.95	-92	1.00			
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			
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%

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

ECP 53

Variance Explanation

BCWS	BCWP	ACWP
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Budgeted Cost			VARIANCES			
BCWS	BCWP	ACWP	Sch Var	SPI	Cst Var	CPI

Budget Thru FY07

Schedule

Cost

	BCWS	BCWP	ACWP	BCWS	BCWP	ACWP	Sch Var	SPI	Cst Var	CPI	Budget Thru FY07	Schedule	Cost
<i>PARS for DEC</i>				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%
<i>PARS for JAN</i>				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%
<i>PARS for FEB</i>				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%
<i>PARS for MAR</i>				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%
<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%
<i>PARS for FEB</i>				1,757	1,098	1,337	-659	0.62	-240	0.82			16.0%
Thru February (ECP 53)				62,398	62,017	64,218	-381	0.99	-2201	0.97	24,276	6,033	24.9%
<i>PARS for MAR</i>				2,112	1,536	1,678	-576	0.73	-142	0.92			15.8%
Thru March (ECP 53)				64,510	63,553	65,896	-957	0.99	-2343	0.96	22,740	6,033	26.5%
<i>PARS for APR</i>				1,615	1,188	1,335	-426	0.74	-147	0.89			16.2%
Thru March (ECP 53)				66,125	64,741	67,231	-1383	0.98	-2490	0.96	21,552	6,033	28.0%
													16.4%

