

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

**NCSX**

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

**OCTOBER**

CUMULATIVE TO DATE (from 4/1/03) (k)								ECP39 Budget Thru FY06
Budgeted Cost			VARIANCES					
BCWS	BCWP	ACWP	Sch Var	SPI	Cst Var	CPI		
<b>1 - Stellarator Core Systems</b>	<b>31,414</b>	<b>30,962</b>	<b>30,944</b>	<b>-452</b>	<b>.99</b>	<b>18</b>	<b>1.00</b>	<b>44,349</b>
<b>12 Vacuum Vessel Systems</b>	<b>7,061</b>	<b>6,821</b>	<b>6,859</b>	<b>-240</b>	<b>.97</b>	<b>-38</b>	<b>.99</b>	<b>9,159</b>
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
1203 - Vacuum Vessel Final Dsn	1,001	969	969	-32	.97	0	1.00	1,098
1204-VV Sys Procurements (non VVSA)	1		4	-1		-4		193
CLOSED 1206 - VV Field Weld Joint R&D	16	16	16		1.00	0	1.00	16
1250 - Vacuum Vessel Fabrication	3,849	3,642	3,674 (1)	-207	.95	-32	.99	5,658
<b>13 Conventional Coils</b>	<b>1,571</b>	<b>1,606</b>	<b>1,585</b>	<b>35</b>	<b>1.02</b>	<b>21</b>	<b>1.01</b>	<b>2,765</b>
1301 - TF Design	946	944	945	-2	1.00	-1	1.00	946
1302 - PF and CS Design	3			-3				11
1350 - TF Coil Fabr Prep	432	476	443	44	1.10	34	1.08	743
1351 - TF Coil Fabr Supplies	190	180	197	-10	.95	-17	.91	811
1361 - TF Fabrication		6						254
<b>14 Modular Coils</b>	<b>19,414</b>	<b>19,163</b>	<b>19,117</b>	<b>-251</b>	<b>.99</b>	<b>46</b>	<b>1.00</b>	<b>27,311</b>
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
1403 - Modular Coil Final Design (includes job 1421 coil interface hw dsn)	3,237	3,163	3,250	-74	.98	-86	.97	3,339
CLOSED 1404-MCWF R&D & 1st Prod Casting	2,544	2,544	2,544		1.00	0	1.00	2,544
CLOSED 1405-Mod Coil Winding R&D Prep	168	168	168		1.00		1.00	168
CLOSED 1406 - Mod. Coil Winding Facility	2,247	2,247	2,247		1.00	0	1.00	2,247
CLOSED 1407 -Mod Coil Winding Facility	2,546	2,546	2,546		1.00	0	1.00	2,546
1408-Mod Coil Winding Supplies	666	642	605	-24	.96	37	1.06	1,638
CLOSED 1409 - Mod. Coil Test Stand	916	916	916		1.00	0	1.00	916
CLOSED 1410 MC Twisted Racetrack Fabr	1,050	1,050	1,050		1.00	0	1.00	1,050
1411-MCWF Fabrication S005242	4,302	4,180	4,114 (2)	-122	.97	66	1.02	8,098
CLOSED 1412 - Complete Winding Facilities	537	537	537		1.00	0	1.00	537
CLOSED 1413 - Mod Coil Fracture Analysis	28	28	28		1.00	0	1.01	28
1414 - Coil Testing	164	164	174		1.00	-10	.94	276
CLOSED 1415 - Dimensional Control Testing	24	24	24		1.00	0	1.00	24
1416 - Mod Coil Type A&B Final Design	135	87	35	-48	.65	52	2.47	756
CLOSED 1419 - Winding Facility Modification	48	48	48		1.00	0	.99	48
1451 - Mod Coil Winding	259	275	287	16	1.06	-12	.96	2,553
<b>15 Structures</b>	<b>78</b>	<b>78</b>	<b>75</b>		<b>1.00</b>	<b>3</b>	<b>1.05</b>	<b>208</b>
1501 - Structures Design	78	78	75		1.00	3	1.05	208
<b>16 - Coil Services</b>								-
<b>17 Cryostat and Base</b>	<b>374</b>	<b>372</b>	<b>388</b>	<b>-2</b>	<b>.99</b>	<b>-16</b>	<b>.96</b>	<b>377</b>
1701-Cryostat&Base Sprt Strct Dsn	374	372	388	-2	.99	-16	.96	377
<b>18 Field Period Assembly</b>	<b>1,381</b>	<b>1,394</b>	<b>1,396</b>	<b>13</b>	<b>1.01</b>	<b>-3</b>	<b>1.00</b>	<b>2,526</b>
CLOSED 1801-Field Period Assly	61	61	61		1.00	0	1.00	61
1802 - FP Assy Oversight&Support	380	380	382		1.00	-2	1.00	718
1803- FP Assy Toolg/Constructability	501	515	506	14	1.03	9	1.02	933
1804-FP Assy Measurement	439	438	447	-1	1.00	-10	.98	452
1810 - Field Period Assembly								362

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Budgeted Cost			VARIANCES				CPI		
BCWS	BCWP	ACWP	Sch Var	SPI	Cst Var				
19	1901 - Stellarator Core Mngt&Integr	1,535	1,529	1,525	-6	1.00	3	1.00	2,003
<b>2</b>	<b>Plasma Heating,Fueling &amp; Vac Sys</b>	<b>349</b>	<b>349</b>	<b>347</b>		<b>1.00</b>	<b>2</b>	<b>1.01</b>	<b>349</b>
	CLOSED 2001-VPS Gas& Cond Sys Oversight	64	64	63		1.00	1	1.02	64
	CLOSED 2501 - Neutral Beam Refurbishment	285	285	284		1.00	1	1.00	285
<b>3</b>	<b>Diagnostics</b>	<b>458</b>	<b>431</b>	<b>433</b>	<b>-27</b>	<b>.94</b>	<b>-2</b>	<b>1.00</b>	<b>770</b>
31	3101 Magnetic Diagnostics	177	150	152	-27	.85	-2	.99	425
39	3901 - Diagnostics sys Integration	281	281	281	0	1.00	0	1.00	345
<b>4</b>	<b>Electrical Power Systems</b>	<b>554</b>	<b>541</b>	<b>574</b>	<b>-13</b>	<b>.98</b>	<b>-33</b>	<b>.94</b>	<b>742</b>
41	4101 - AC Power	107	107	107		1.00	0	1.00	107
43	4301 - DC Systems	240	240	262		1.00	-22	.92	314
44	4401 - Control & Protection	55	55	65		1.00	-10	.85	55
45	4501 - Power Sys Dsn & Integr	151	138	138	-13	.91	0	1.00	265
46	4601 - FCPC Bldg Mods	1	1	1		1.00	0	.77	1
<b>5</b>	<b>Central I&amp;C Systems</b>	<b>33</b>	<b>33</b>	<b>33</b>		<b>1.00</b>	<b>0</b>	<b>1.00</b>	<b>33</b>
58	5801 -Central I&C Integr	33	33	33		1.00	0	1.00	33
<b>6</b>	<b>Facility Systems</b>	<b>24</b>	<b>24</b>	<b>24</b>		<b>1.00</b>	<b>0</b>	<b>.99</b>	<b>24</b>
	6163 - Facility Systems Support FY04	15	15	15		1.00	0	1.01	15
	62 - Cryogenic Systems								-
	63 - Utility Systems								-
	CLOSED 6501 - Facility Systems Integration	9	9	9		1.00	0	.96	9
<b>7</b>	<b>Test Cell Prep &amp; Machine Assy</b>	<b>897</b>	<b>899</b>	<b>912</b>	<b>2</b>	<b>1.00</b>	<b>-13</b>	<b>.99</b>	<b>915</b>
	CLOSED 7101 - Shield Wall Modif	32	32	32		1.00	0	1.00	32
	7201 - Control Room Walls&Floors								-
	7301 - Platform Design &	71	72	74	1	1.01	-2	.97	71
	7401 - TC Prep & Mach Assy Planning	794	795	805	1	1.00	-10	.99	812
<b>8</b>	<b>Project Oversight &amp; Support</b>	<b>6,543</b>	<b>6,543</b>	<b>6,533</b>		<b>1.00</b>	<b>10</b>	<b>1.00</b>	<b>8,665</b>
81	Project Management and Control	3,084	3,084	3,075		1.00	9	1.00	4,126
	8101 - Project Management & Control	2,007	2,007	2,008		1.00	-1	1.00	2,588
	8102 - NCSX MIE Management ORNL	270	270	272		1.00	-2	.99	429
	8998 - Allocations	807	807	796		1.00	11	1.01	1,109
82	Project Engineering	2,989	2,989	2,988		1.00	1	1.00	4,069
	8202 - Engr Mgmt & Sys Eng Support	1,668	1,668	1,670		1.00	-2	1.00	2,241
	8203 - Design Integration	698	698	697		1.00	1	1.00	826
	8204 - Systems Analysis	518	518	531		1.00	-13	.98	724
	8205 - Dimensional Control Coord.	105	105	90		1.00	15	1.17	278
84	Project Physics	470	470	470		1.00	0	1.00	470
	CLOSED 8401 - Project Physcis	324	324	324		1.00	0	1.00	324
	CLOSED 8402 - Project Physics MIE ORNL	146	146	146		1.00	0	1.00	146
	<b>Subtotal</b>	<b>40,272</b>	<b>39,782</b>	<b>39,799</b>	<b>-490</b>	<b>.99</b>	<b>-17</b>	<b>1.00</b>	<b>55,848</b>
	<b>Contingency/Management Reserve</b>								<b>1,295</b>
	<b>Anticipated Incremental Funding</b>								<b>1,370</b>
	<b>Anticipated 3% hold back on FY06 BA</b>								<b>(518)</b>
	<b>DCMA QA Inspection services</b>								<b>75</b>
	<b>TOTAL PROJECT</b>								<b>58,070</b>

(1) Reflects accrual increase of \$ 107k based on MTM's June earned value report

(2) Reflects accrual reduction of \$ 211 k based on EIO's June earned value report