**Princeton Plasma Physics Laboratory**

**NSTX Upgrade Project**

**Cost Performance Report ($K)**

**Current Month: JANUARY 2011**

- schedule variance
- cost variance
+ cost variance

| | Cumulative | | | | | | | Current Month | | | | | | | | FY 2011 only | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | BCWS | BCWP | ACWP | SPI | CPI | SV | CV | BCWS | BCWP | ACWP | SPI | CPI | SV | CV | BAC | BCWS | BCWP | ACWP | SPI | CPI | SV | CV | |
| **1.1 Torus Systems** | | | | | | | | | | | | | | | | | | | | | | | |
| Job: 1000 - CSU Analytical Support-TITUS | 139 | 113 | 87 | 0.81 | 1.29 | (26) | 26 | 20 | 12 | 6 | 0.61 | 2.06 | (8) | 6 | 386 | 74 | 37 | 23 | 0.49 | 1.63 | (37) | 14 | global model, tile qualif. -manpower constrained |
| Job: 1001 - CS Plasma Facing Components-TRESEMER | 498 | 468 | 450 | 0.94 | 1.04 | (30) | 18 | 31 | 12 | 19 | 0.37 | 0.61 | (19) | (7) | 2,170 | 145 | 111 | 97 | 0.76 | 1.14 | (34) | 14 | detail assembly and tile drawings-manpower |
| Job: 1002 -Passive Plate Analysis &Upgrade-TITUS | 232 | 225 | 184 | 0.97 | 1.22 | (7) | 40 | 15 | 10 | 2 | 0.68 | 5.95 | (5) | 8 | 253 | 62 | 30 | 15 | 0.48 | 2.06 | (32) | 15 | disruption and VV/PP analysis - manpower |
| Job: 1200-1220 - Structures & Supports-SMITH | 1,960 | 1,940 | 1,808 | 0.99 | 1.07 | (20) | 131 | 74 | 76 | 41 | 1.02 | 1.86 | 1 | 35 | 3,528 | 333 | 323 | 181 | 0.97 | 1.78 | (10) | 141 | |
| Job: 1300 - Center Stack-CHRZANOWSKI | 235 | 244 | 204 | 1.04 | 1.20 | 10 | 40 | 27 | 22 | 13 | 0.80 | 1.62 | (5) | 8 | 1,065 | 102 | 85 | 72 | 0.84 | 1.19 | (17) | 14 | |
| Job: 1301 - Outer TF Coils-CHRZANOWSKI | 20 | 20 | 20 | 1.00 | 1.00 | 0 | (0) | - | - | - | - | - | - | - | 338 | (0) | - | (0) | - | - | 0 | 0 | |
| Job: 1303 - TF Joint Test Stand&Test-KOZUB | 235 | 251 | 111 | 1.07 | 2.26 | 16 | 140 | 41 | 5 | 5 | 0.11 | 0.90 | (37) | (1) | 353 | 156 | 173 | 32 | 1.11 | 5.47 | 17 | 141 | |
| Job: 1304 - Inner TF Bundle (Ds/Fab)-CHRZANOWSKI | 549 | 446 | 440 | 0.81 | 1.01 | (102) | 6 | 102 | 28 | 14 | 0.28 | 2.10 | (74) | 15 | 2,596 | 221 | 121 | 112 | 0.55 | 1.09 | (99) | 10 | late award of copper and TF analysis. Copper award under budget! |
| Job: 1305 - OHMIC Heating Coil (OH)-CHRZANOWSKI | 1,473 | 1,497 | 1,504 | 1.02 | 1.00 | 24 | (7) | 34 | 41 | 42 | 1.19 | 0.96 | 7 | (2) | 4,555 | 104 | 139 | 135 | 1.34 | 1.03 | 35 | 4 | |
| Job: 1306 - Inner PF Coils-CHRZANOWSKI | 154 | 149 | 130 | 0.96 | 1.15 | (6) | 19 | 22 | 3 | 4 | 0.12 | 0.64 | (19) | (1) | 668 | 55 | 54 | 30 | 0.98 | 1.79 | (1) | 24 | |
| Job: 1307 - CS Casing Assembly -CHRZANOWSKI | 115 | 124 | 167 | 1.08 | 0.74 | 9 | (43) | 6 | (1) | 44 | (0.15) | (0.02) | (6) | (45) | 904 | 21 | 31 | 73 | 1.47 | 0.43 | 10 | (42) | Rogoff analysis support |
| Job: 1310 - CSU Magnet Systems-CHRZANOWSKI | 442 | 442 | 442 | 1.00 | 1.00 | 0 | (0) | - | - | - | - | - | - | - | 442 | - | - | 0 | - | - | - | (0) | |
| Job: 1302 - Center Stack Assembly-CHRZANOWSKI | - | - | 5 | - | - | - | (5) | - | - | (21) | - | - | - | 21 | 990 | - | - | 5 | - | - | - | (5) | |
| **1.1 Subtotal =** | **6,051** | **5,918** | **5,553** | **0.98** | **1.07** | **(132)** | **366** | **372** | **207** | **169** | **0.56** | **1.22** | **(165)** | **38** | **18,248** | **1,272** | **1,104** | **774** | **0.87** | **1.43** | **(168)** | **330** | |
| **1.2 Plasma Heating and Current Drive Systems** | | | | | | | | | | | | | | | | - | - | - | - | - | | | |
| Job: 2300 - ECH Analysis-TITUS | 49 | 38 | 27 | 0.79 | 1.43 | (10) | 11 | 6 | 11 | - | 1.93 | - | 5 | 11 | 84 | 22 | 14 | 0 | 0.63 | 51.25 | (8) | 14 | |
| Job: 2420 - 2nd NBI Sources-CROPPER | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1,094 | - | - | - | - | - | - | - | |
| Job: 2425 - BL Relocation-DENAULT | 62 | 47 | 47 | 0.76 | 1.00 | (15) | 0 | 12 | 0 | 0 | 0.01 | 0.29 | (12) | (0) | 1,859 | 19 | 6 | 3 | 0.31 | 1.75 | (13) | 2 | Martin diverted to NSTX current outage (FIDA Diag) |
| Job: 2430 - 2nd NBI Decontamination-STEVENSON | 2,057 | 2,057 | 2,070 | 1.00 | 0.99 | 0 | (13) | - | - | - | - | - | - | - | 2,057 | 18 | 18 | 31 | 1.01 | 0.58 | 0 | (13) | |
| Job: 2440 - 2nd NBI Beamline-DENAULT | 117 | 123 | 63 | 1.05 | 1.96 | 6 | 60 | 25 | 26 | 2 | 1.06 | 16.16 | 2 | 25 | 2,589 | 77 | 82 | 22 | 1.07 | 3.74 | 6 | 60 | |
| Job: 2450 - 2nd NBI Services-DENAULT | 282 | 285 | 282 | 1.01 | 1.01 | 3 | 4 | 4 | 14 | 6 | 3.42 | 2.21 | 10 | 8 | 4,516 | 16 | 19 | 16 | 1.20 | 1.23 | 3 | 4 | |
| Job: 2460 - 2nd NBI Armor-PRINISKI | 278 | 288 | 309 | 1.04 | 0.93 | 10 | (22) | 4 | 10 | 4 | 2.79 | 2.58 | 6 | 6 | 700 | 6 | 16 | 37 | 2.65 | 0.42 | 10 | (22) | |
| Job: 2470 - 2nd NBI Power-RAKI | 224 | 223 | 216 | 1.00 | 1.03 | (1) | 7 | 5 | 3 | 1 | 0.68 | 2.31 | (2) | 2 | 3,334 | 10 | 8 | 2 | 0.83 | 3.55 | (2) | 6 | |
| Job: 2475 - 2nd NBI Controls-CROPPER | 85 | 46 | 22 | 0.54 | 2.07 | (39) | 24 | 39 | 9 | 12 | 0.22 | 0.72 | (31) | (3) | 2,089 | 77 | 35 | 14 | 0.46 | 2.57 | (41) | 22 | |
| Job: 2480 - 2nd NBI/TVPS Duct-PRINISKI | 388 | 384 | 396 | 0.99 | 0.97 | (3) | (12) | 10 | - | 6 | - | - | (10) | (6) | 2,258 | 33 | 43 | 41 | 1.31 | 1.05 | 10 | 2 | |
| Job: 2485 - Vacuum Pumping System-PRINISKI | 56 | 52 | 54 | 0.92 | 0.97 | (4) | (2) | 3 | 2 | 3 | 0.73 | 0.70 | (1) | (1) | 388 | 14 | 8 | 11 | 0.57 | 0.70 | (6) | (3) | |
| Job: 2490 - NTC Equipt Relocations-PERRY | 278 | 278 | 278 | 1.00 | 1.00 | 0 | (0) | - | - | - | - | - | - | - | 3,618 | (0) | 0 | 0 | (0.01) | 0.25 | 0 | (0) | |
| **1.2 Subtotal =** | **3,875** | **3,821** | **3,763** | **0.99** | **1.02** | **(54)** | **58** | **107** | **76** | **34** | **0.71** | **2.23** | **(31)** | **42** | **24,586** | **290** | **249** | **178** | **0.86** | **1.40** | **(41)** | **71** | |
| **1.3 Auxiliary Systems** | | | | | | | | | | | | | | | | - | - | - | - | - | | | |
| Job: 3200 - Water Cooling System Mods-DENAULT | 27 | 16 | 18 | 0.57 | 0.88 | (12) | (2) | 12 | - | 0 | - | - | (12) | (0) | 195 | 12 | (0) | 2 | (0.00) | (0.00) | (12) | (2) | |
| Job: 3300 - Bakeout System Mods for CSU-RAKI | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 79 | - | - | - | - | - | - | - | |
| Job: 3400 - Gas Delivery System Mods-BLANCHARD | 3 | 3 | 3 | 1.09 | 1.00 | 0 | (0) | - | - | - | - | - | - | - | 102 | (0) | - | 0 | - | - | 0 | (0) | |
| **1.3 Subtotal =** | **30** | **18** | **21** | **0.62** | **0.89** | **(11)** | **(2)** | **12** | **-** | **0** | **-** | **-** | **(12)** | **(0)** | **377** | **12** | **(0)** | **2** | **(0.00)** | **(0.00)** | **(12)** | **(2)** | |
| **1.4 Plasma Diagnostics** | | | | | | | | | | | | | | | | - | - | - | - | - | | | |
| Job: 4100 - Center Stack Diagnostics-KAITA | 115 | 122 | 137 | 1.06 | 0.89 | 7 | (15) | 8 | 4 | 12 | 0.48 | 0.33 | (4) | (8) | 836 | 23 | 30 | 45 | 1.31 | 0.67 | 7 | (15) | |
| Job: 4500 - MPTS VV Modification-LABIK | 281 | 275 | 268 | 0.98 | 1.03 | (6) | 7 | 60 | 65 | 45 | 1.09 | 1.46 | 5 | 21 | 967 | 156 | 200 | 143 | 1.29 | 1.40 | 45 | 57 | |
| **1.4 Subtotal =** | **395** | **397** | **405** | **1.00** | **0.98** | **1** | **(8)** | **69** | **70** | **57** | **1.01** | **1.22** | **1** | **12** | **1,803** | **179** | **231** | **188** | **1.29** | **1.22** | **52** | **42** | |
| **1.5 Power Systems** | | | | | | | | | | | | | | | | - | - | - | - | - | | | |
| Job: 5000 - 5008 - CSU Power Systems-RAKI | 1,226 | 1,186 | 1,166 | 0.97 | 1.02 | (41) | 19 | 42 | 16 | 1 | 0.39 | 10.99 | (26) | 15 | 5,735 | 87 | 43 | 27 | 0.49 | 1.58 | (44) | 16 | Raki diverted to NSTX spa |
| Job: 5200 - DCPS - Hatcher | 221 | 181 | 158 | 0.82 | 1.14 | (41) | 22 | 51 | 12 | 13 | 0.24 | 0.96 | (39) | (1) | 2,493 | 138 | 97 | 75 | 0.70 | 1.30 | (41) | 22 | Requirements & Design slip 1 month |
| Job: 5501 - Coil Bus Runs-SMITH | 231 | 237 | 262 | 1.03 | 0.90 | 7 | (25) | 12 | 16 | 26 | 1.32 | 0.61 | 4 | (10) | 1,129 | 46 | 75 | 77 | 1.66 | 0.98 | 30 | (2) | |
| **1.5 Subtotal =** | **1,678** | **1,604** | **1,587** | **0.96** | **1.01** | **(75)** | **16** | **106** | **45** | **40** | **0.42** | **1.11** | **(61)** | **4** | **9,357** | **271** | **215** | **179** | **0.80** | **1.20** | **(55)** | **36** | |
| **1.6 Central Instrumentation & Control** | | | | | | | | | | | | | | | | - | - | - | - | - | | | |
| Job: 6100 - Control Sys Data Acquisition -SICHTA | 79 | 47 | 45 | 0.60 | 1.05 | (32) | 2 | 29 | 1 | - | 0.03 | - | (28) | 1 | 918 | 39 | 6 | 5 | 0.17 | 1.42 | (32) | 2 | |
| **1.6 Subtotal =** | **79** | **47** | **45** | **0.60** | **1.05** | **(32)** | **2** | **29** | **1** | **-** | **0.03** | **-** | **(28)** | **1** | **918** | **39** | **6** | **5** | **0.17** | **1.42** | **(32)** | **2** | |
| **1.7 Project Support & Integration** | | | | | | | | | | | | | | | | - | - | - | - | - | | | |
| Job: 7100 - Project Mgt & Integration-STRYKOWSKY | 1,673 | 1,673 | 1,605 | 1.00 | 1.04 | (0) | 68 | 71 | 70 | 58 | 0.99 | 1.21 | (0) | 12 | 5,812 | 266 | 266 | 198 | 1.00 | 1.34 | (0) | 68 | GA dwgs not being charged to job ($23k)Erik diverted to NSTX outage $21k, Simmons occupied on ITER and ASME $11 Underspending M&S $10k |
| Job: 7200 - Center Stack Management-DUDEK | 341 | 342 | 300 | 1.00 | 1.14 | 0 | 41 | 19 | 19 | 16 | 1.00 | 1.15 | 0 | 3 | 1,539 | 119 | 119 | 78 | 1.00 | 1.53 | 0 | 41 | Oct EIR undercosted expectations no recurring until next lehman rvw |
| Job: 7300 - NB2 Management-STEVENSON | 315 | 314 | 251 | 1.00 | 1.25 | (1) | 63 | 10 | 9 | 4 | 0.95 | 2.27 | (0) | 5 | 1,450 | 114 | 114 | 50 | 0.99 | 2.25 | (1) | 63 | Oct EIR undercosted expectations no recurring until next lehman rvw. Less supervisio time than planned. |
| Job: 7400 - Health Physics Support-STEVENSON | 546 | 546 | 426 | 1.00 | 1.28 | 0 | 120 | 43 | 41 | 9 | 0.94 | 4.45 | (2) | 32 | 2,507 | 159 | 159 | 39 | 1.00 | 4.04 | 0 | 120 | HP tech support. Will pickup when refurbishment work ramps up. |
| Job: 7700 - NSTX-U HP Allocations-STRYKOWSKY | 932 | 931 | 898 | 1.00 | 1.04 | (0) | 34 | 30 | 30 | 30 | 1.00 | 0.99 | 0 | (0) | 2,604 | 112 | 112 | 78 | 1.00 | 1.44 | (0) | 34 | |
| Job: 7710 - Upgrade Allocations-STRYKOWSKY | 352 | 353 | 344 | 1.00 | 1.02 | 0 | 8 | 3 | 3 | - | 1.35 | - | 1 | 3 | 382 | 10 | 10 | 2 | 1.05 | 5.52 | 0 | 8 | |
| Job: 7900 - Integrated System-GENTILE | 4 | 4 | 4 | 1.00 | 1.11 | (0) | 0 | 0 | - | - | - | - | (0) | - | 78 | 0 | 0 | (0) | 1.11 | (10.16) | 0 | 0 | |
| **1.7 Subtotal =** | **4,163** | **4,162** | **3,827** | **1.00** | **1.09** | **(0)** | **335** | **174** | **172** | **117** | **0.99** | **1.47** | **(2)** | **55** | **14,371** | **781** | **780** | **445** | **1.00** | **1.75** | **(0)** | **335** | |
| **1.8 Site Preparation and Torus Assembly** | | | | | | | | | | | | | | | | - | - | - | - | - | | | |
| Job; 8200 - CS & Coil Sprt Struc Install- VIOLA | 54 | 56 | 48 | 1.05 | 1.18 | 3 | 9 | 4 | 3 | 2 | 0.86 | 1.62 | (1) | 1 | 6,474 | 15 | 13 | 9 | 0.87 | 1.45 | (2) | 4 | |
| Job: 8250 - Remove/Install Centerstack-PERRY | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1,173 | - | - | - | - | - | - | - | |
| **1.8 Subtotal =** | **54** | **56** | **48** | **1.05** | **1.18** | **3** | **9** | **4** | **3** | **2** | **0.86** | **1.62** | **(1)** | **1** | **7,648** | **15** | **13** | **9** | **0.87** | **1.45** | **(2)** | **4** | |
| **Total Project =** | **16,325** | **16,024** | **15,249** | **0.98** | **1.05** | **(301)** | **775** | **872** | **573** | **420** | **0.66** | **1.36** | **(299)** | **153** | **77,308** | **2,856** | **2,598** | **1,780** | **0.91** | **1.46** | **(258)** | **818** | |
| **Contingency =** | | | | | | | | | | | | | | | **16,992** | | | | | | | | |
| **TPC =** | | | | | | | | | | | | | | | **94,300** | | | | | | | | |