**CLASSIFICATION (When Filled In)**

**CONTRACT PERFORMANCE REPORT**
**FORMAT 5 - Explanations and Problem Analysis**

**FORM APPROVED**
**OMB No. 0704-0188**

| 1. CONTRACTOR | 2. CONTRACT | | 3. PROGRAM | 4. REPORT PERIOD |
|---|---|---|---|---|
| a. NAME<br>Princeton University-Plasma Physics Lab | a. NAME<br>DOE-SC-OFES-NSTX Upgrade | | a. NAME<br>NSTX Upgrade Project | a. FROM (YYYYMMDD)<br>2012 / 08 / 01 |
| b. LOCATION (Address and ZIP Code)<br>Princeton, New Jersey | b. NUMBER<br>DE-AC02-09CH11466 | | b. PHASE<br>CD-3 | b. TO (YYYYMMDD)<br>2012 / 08 / 31 |
| | c. TYPE<br>M&O | d. SHARE RATIO | c. EVMS ACCEPTANCE<br>No X Yes (YYYYMMDI 2011 / 12 / 20 | |

**5. Evaluation**

**1.1 / 1305 Ohmic Heating Coil**

| | Budget | Earned | Actuals | SV in $ | SV in % | CV in $ | CV in % | SPI | CPI |
|---|---|---|---|---|---|---|---|---|---|
| Current: | 305 | 127 | 227 | -179 | -58% | -101 | -79% | 0.42 | 0.56 |
| Cumulative: | 3,655 | 3,436 | 4,566 | -218 | -6% | -1,130 | -33% | 0.94 | 0.75 |
| | **BAC** | **EAC** | **VAC in $** | **VAC in %** | **TCPI to BAC** | **TCPI to EAC** | | | |
| At Complete: | 5,954 | 7,110 | -1,156 | -19% | 1.81 | 0.99 | | | |

**Explanation of Variance/Description of Problem:**

Over costs were due to a number of activities. The coil manufacturing team (4) tecnicians have not been in production mode and their time was used doing some preparations and not efficiently productive toward the milestones. Other over run costs were the proper set up of the winding area (power/ventilation) greater than budgeted, tooling and cyanate resin that have exceeded the original budget. Additional lifting beams and transport cart had to be fabricated. Additional engineering costs to support activities were also not covered. Recently, additional re-work on the TF quadrant mold and prototyping/control setup for the Aquapour test have led to addtional cost variances.

**Impact:**

Budget impacts from this variance are significant; however, the baseline early finish is not in jeopardy at this point.

**Corrective Action:**

An ECP was recently approved to increase budget for the majority of the coil fabrication activities, however, recent rework of the TF quadrant mold and aquapour test prototyping has led to additional variances. During the preparation and VPI of the 1st TF quadrant the budget vs. actual hours will be analyzed. If it is found that additional budget will be required an ECP will be generated for these tasks on the other three quadrants.

**Monthly Summary (to include technical causes of VARs, Impacts) and Corrective Action(s):**

Labor, tooling, and engineering costs have led to a negative cost variance in this Control Account.

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Date: 2012.10.05 11:12:55 -04'00'

**Date:**

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**Date:**

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| | c. TYPE<br>M&O | d. SHARE RATIO | c. EVMS ACCEPTANCE<br>No X Yes (YYYYMMDI 2011 / 12 / 20 | |

**5. Evaluation**

**1.1 / 1306 Inner PF Coils**

| | Budget | Earned | Actuals | SV in $ | SV in % | CV in $ | CV in % | SPI | CPI |
|---|---|---|---|---|---|---|---|---|---|
| Current: | 55 | 0 | 2 | -55 | -100% | -2 | - | 0.00 | 0.00 |
| Cumulative: | 372 | 265 | 398 | -107 | -29% | -133 | -50% | 0.71 | 0.67 |
| | **BAC** | **EAC** | **VAC in $** | **VAC in %** | **TCPI to BAC** | **TCPI to EAC** | | | |
| At Complete: | 838 | 971 | -133 | -16% | 1.30 | 1.00 | | | |

**Explanation of Variance/Description of Problem:**
Cost and schedule over runs are due to significant redesign of all (3) PF coil structures based on the latest analyais reports. This required additional Cad Design time. One day of Analysis time in August led to a small variance for the month.

**Impact:**
Increased project costs. No impact schedule.

**Corrective Action:**
As a result of a recent bottom-up estimate an ECP was generated to address budget needs for this Control Account. While it does not appear as though the variance can be corrected, the hope is that the variance will not worsen.

**Monthly Summary (to include technical causes of VARs, Impacts) and Corrective Action(s):**
Re-design of all 3 PF coil structures have led to a cost variance in this Control Account.

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**Date:**