**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>2013 / 06 / 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>2013 / 06 / 30 |
| | c. TYPE<br>M&O | d. SHARE RATIO | c. EVMS ACCEPTANCE<br>No X Yes (YYYYMMDD 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: | 265 | 306 | 305 | 41 | 15% | 1 | 0% | 1.15 | 1.00 |
| Cumulative: | 5,737 | 5,313 | 7,514 | **-424** | -7% | -2,202 | -41% | 0.93 | 0.71 |
| | **BAC** | **EAC** | **VAC in $** | **VAC in %** | **TCPI to BAC** | **TCPI to EAC** | | | |
| At Complete: | 6,411 | 8,613 | -2,203 | -34% | - | 1.00 | | | |

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

Control Account 1305 is the main driver for both the schedule and cost variances in WBS 1.1. These variances are due to a number of activities. The coil manufacturing team (4) technicians were not in production mode for a large period of time 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. In January/February 2013, in addition to additional costs for mold re-work, many of the conductors were re-wrapped to gain the proper thickness measurements for dimensional purposes. Fabrication and commissioning of the OH coil winding station has also exceeded the allocated budget for the task.

**Impact:**

These variances have had a significant impact on both project schedule and project costs. Since the last Report, and with the successful completion of the fourth quadrant VPI we have not incurred additional loss in schedule.

**Corrective Action:**

The cost and schedule variances are not recoverable. A thorough review (bottom-up) of all schedule activities has been performed in an attempt to properly capture budget required moving forward and in an attempt to recapture schedule float on the critical path. Overtime and shift work will be employed when available to lessen the impact on the project schedule and reduce total float.

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

Labor, tooling, rework, and engineering costs have led to significant negative cost and schedule variances in this Control Account. Completion of the four quadrant VPIs in a timely manner and delivery of the full mold has reduced a large schedule and cost risk. The current activity (asembly of quadrant into the full bundle) is proceeding close to projections. Another thorough review of all critical path activites will be performed to more adequately capture the proper budget required and to minimize loss of schedule float.

**Prepared by:** Steve Raftopoulos — Digitally signed by Steve Raftopoulos DN: cn=Steve Raftopoulos, o, ou, email=sraftopo@pppl.gov, c=US Date: 2013.07.23 15:04:40 -04'00'

**Date:**

**Approved by:** Ron Strykowsky — Digitally signed by Ron Strykowsky DN: cn=Ron Strykowsky, o, ou=PPPL, email=rstrykow@pppl.gov, c=US Date: 2013.07.25 11:31:31 -04'00'

**Date:**