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 Princeton University-Plasma Physics Lab	a. NAME DOE-SC-OFES-NSTX Upgrade		a. NAME NSTX Upgrade Project	a. FROM (YYYYMMDD) 2014 / 05 / 01
b. LOCATION (Address and ZIP Code) Princeton, New Jersey	b. NUMBER DE-AC02-09CH11466		b. PHASE CD-3	b. TO (YYYYMMDD) 2014 / 05 / 31
	c. TYPE M&O	d. SHARE RATIO	c. EVMS ACCEPTANCE No X Yes (YYYYMMDD) 2011 / 12 / 20	

5. Evaluation

5200 DCPS (Stevenson)

	Budget	Earned	Actuals	SV in $	SV in %	CV in $	CV in %	SPI	CPI
Current:	92	89	216	**-3**	**-4%**	-127	**-143%**	0.96	0.41
Cumulative:	2,652	2,327	3,455	-325	**-12%**	-1,128	**-48%**	0.88	0.67
	BAC	**EAC**	**VAC in $**	**VAC in %**	**TCPI to BAC**	**TCPI to EAC**			
At Complete:	2,692	3,969	-1,276	**-47%**	0.12	-			

Explanation of Variance/Description of Problem:

The DCPS is a large and complex merger of various technologies that perform a cross cutting but comprehensive protection for the NSTX-U machine. This blend has led to interface discrepancies that were unavoidable but underappreciated. The details associated with working out those discrepancies between hardware and hardware types and software was performed by the CAM as SME and world renowned expert in power supply controls. The overall requirements for the DCPS are clear but the implementation has experienced shifts due to technological and IT related issues. This merger required that multiple SMEs interact and produce interface documentation which due to personalities and lack of experience in related fields caused the the CAM to become the primary conduit. Communication therefore was extremely difficult and required functional and project management intervention and involvement to restore order. This system of communication worked adequately well but renegotiation of changes became slow and difficult with informality that led to ambiquities and uncertainty. The CAM became a single point risk to the DCPS project as the glue holding the communications together. The risk was realized in the most pointed and final way with his recent passing. Additionally the hardware portion of this job experienced a significant delay of 3-4 weeks in the ordering of chassis components due to procurement issues. A successful FDR was held on schedule; small details were changed and added. Procedure development is in progress. Evaluation of procedures, chits, reliability, and test data continues.

Impact:

While generally moving forward the software and hardware team have lagged due to technical and communication difficulties. The full impact of the loss of the CAM is yet to be known. So far, software testing has started on schedule with rapid progress. Hardware orders have been delayed several weeks but have proceeded rapidly once initiated.

Corrective Action:

Appoint new CAM. Appoint another SME for Test Director of stage 1 testing. Issue Blanket Purchase Agreement for hardware. Increase communications to collect information and realign work. Another corrective BPA was issued for outsourcing the large quantity of Lemo cables needed. Several meeting were held to resolve loose ends allowing a final push for software. DCPS expected to be ready for power supply testing August 2014 which will support the upgrade project schedule and therefore is expected to have NO impact on CD4.

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

Progress continues on software testing in FCC setup. Several reviews were held and problems resolved. Meetings were held to discuss open items. New parameter tree data was issued to improved testing quality. Progress continues on the GUI. Much progress has been made on the hardware interface including a successful FDR, PCB orders, parts orders, drawings, and tests. Bugs and additions have been performed with successful software builds.

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