

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) 2012 / 01 / 01
b. LOCATION (Address and ZIP Code) Princeton, New Jersey	b. NUMBER DE-AC02-09CH11466	b. PHASE CD-3		b. TO (YYYYMMDD) 2012 / 01 / 31
	c. TYPE M&O	d. SHARE RATIO	c. EVMS ACCEPTANCE No X Yes	

5. Evaluation

2475 2nd NBI Controls (Cropper)

	Budget	Earned	Actuals	SV in \$	SV in %	CV in \$	CV in %	SPI	CPI
Cumulative:	248	705	612	457	184%	94	13%	2.84	1.15

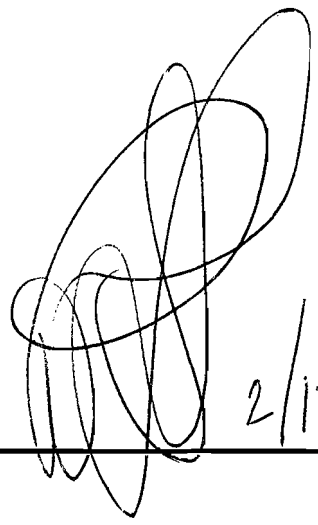
Explanation of Variance/Description of Problem:
Variance due to accelerated schedule. Tasks started ahead of baseline schedule.

Impact:
Jop will complete ahead of baseline schedule.

Corrective Action:
None

Monthly Summary (to include technical causes of VARs, Impacts) and Corrective Action(s):
Variance will be corrected as the baseline schedula catches up to accelerated schedule.

Prepared by: Mark B. Cropper
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ou=NSTX Neutral Beam, email=mcropper@pppl.gov, c=US
Date: 2012.02.16 07:19:42 -0500

Date: **Approved by:**  **Date:** 2/17/2012

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5. Evaluation
2490 NTC Equipment Relocations (Perry)

	Budget	Earned	Actuals	SV in \$	SV in %	CV in \$	CV in %	SPI	CPI
Cumulative:	583	1,134	854	551	95%	280	25%	1.95	1.33


Explanation of Variance/Description of Problem:
Removals are being performed at an accelerated rate while the field crews wait for the new coil supports to be designed and fabricated.

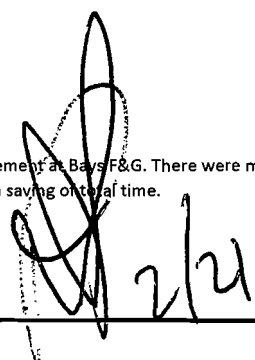
Impact:
Increased schedule contingency for field work.

Corrective Action:
None required.

Monthly Summary (to include technical causes of VARs, Impacts) and Corrective Action(s):
Removals are being performed at an accelerated rate while the field crews wait for the new coil supports to be designed and fabricated. No corrective action is required since this will just increase the scheduler contingency for the field work.

Prepared by:	Erik D. Perry <small>Digitally signed by Erik D. Perry DN: cn=Erik D. Perry, o, ou, email=eperry@pppl.gov, c=US Date: 2012.02.09 10:56:32 -05'00'</small>	Date:	Approved by:		Date:
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5. Evaluation											
3200 Water Cooling System Mods (Denault)											
	Budget	Earned	Actuals	SV in \$	SV in %	CV in \$	CV in %	SPI	CPI		
Cumulative:	74	68	37	-6	-8%	32	46%	0.92	1.87		
Explanation of Variance/Description of Problem: Positive cost variance due the fact that the original design assumed replacement of water pumps; however, pump replacement was not necessary which led to less time being required for design.											
Impact: Other than the cost savings to the project there are no impacts.											
Corrective Action: No corrective action required at this time.											
Monthly Summary (to include technical causes of VARs, Impacts) and Corrective Action(s): A positive cost variance has been realized due to savings in system design. There are no corrective actions required at this time.											
Prepared by: MARTIN DENAULT			Digitally signed by MARTIN DENAULT DN: cn=MARTIN DENAULT, o=PPPL, ou=WELDING, email=mdenault@pppl.gov, c=US Date: 2012.02.13 07:45:59 -05'00'			Date:		Approved by: 		Date: 2/17/2012	

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5. Evaluation										
4500 MPTS VV Modification (Labik)										
	Budget	Earned	Actuals	SV in \$	SV in %	CV in \$	CV in %	SPI	CPI	
Cumulative:	697	589	791	-107	-15%	-201	-34%	0.85		0.75
Explanation of Variance/Description of Problem: This job is behind baseline schedule and over budget. The design was more complex than anticipated influenced by the overconstraint of the MPTS system. Much more complex analysis was required than planned. The analysis model developed benefited the global model. Large Pro E models were difficult for the computer hardware in use and switching to Windchill exacerbated the problem costing us weeks of designer time.										
Impact: The design effort has us behind baseline schedule but the fabrication is projected to be ready in time for installation on time to support project goals.										
Corrective Action: The labor has been expended on analysis and design and the cost variance cannot be appreciably corrected.										
Monthly Summary (to include technical causes of VARs, Impacts) and Corrective Action(s): Design complexity is very high. The system is overconstrained requiring a complex reinforcement of the vacuum vessel at Bay L and more routine reinforcement at Bays F&G. There were many iterations required during the analysis. Analysts were assigned to the task on a continuous basis, as well as a senior mechanical designer. The fabrication is being planned to be performed at PPPL anticipating a saving on total time.										
Prepared by: G. Labik			Date: 2/16/12			Approved by: 			Date:	

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5. Evaluation

8200 CS & Coil Supt Struct Install (Perry)

	Budget	Earned	Actuals	SV in \$	SV in %	CV in \$	CV in %	SPI	CPI
Cumulative:	731	1,108	921	377	52%	187	17%	1.52	1.20

Explanation of Variance/Description of Problem:

Removal procedures being combined (fewer to prepare and review) and field removals being completed more quickly than estimated.

Impact:
None

Corrective Action:
None required

Monthly Summary (to include technical causes of VARs, Impacts) and Corrective Action(s):
 Removal procedures being combined (fewer to prepare and review) and field removals being completed more quickly than estimated.

Prepared by: Erik D. Perry
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 Date: 2012.02.09 10:55:18 -05'00'

Date: **Approved by:**

Date:

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d. SHARE RATIO

3. PROGRAM

a. NAME
 NSTX Upgrade Project

b. PHASE
 CD-3

c. EVMS ACCEPTANCE
 No X Yes (YYYYMMDD) 2011 / 12 / 20

5. Evaluation

8210 Field Supervision & Oversight (Perry)

	Budget	Earned	Actuals	SV in \$	SV in %	CV in \$	CV in %	SPI	CPI
Cumulative:	281	281	187	0	0%	94	34%	1.00	1.50

Explanation of Variance/Description of Problem:

Work planning not costing as much as anticipated during first months due to time being spent on procedure preparation.

Impact:

None

Corrective Action:

None required.

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

Work planning not costing as much as anticipated during first months due to time being spent on procedure preparation.

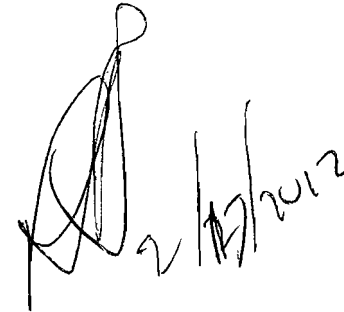
Prepared by:

Erik D. Perry

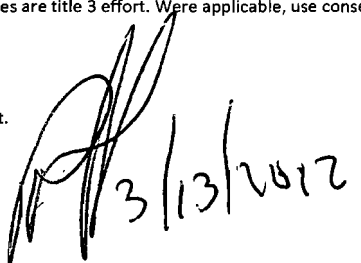
Digitally signed by Erik D. Perry
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 email=eperry@pppl.gov, c=US
 Date: 2012.02.09 10:56:08 -05'00'

Date:

Approved by:



Date:

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5. Evaluation											
1200 Structures & Supports (Smith)											
	Budget	Earned	Actuals	SV in \$	SV in %	CV in \$	CV in %	SPI	CPI		
Cumulative:	2,293	2,300	2,875	7	0%	-575	-25%	1.00	0.80		
<p>Explanation of Variance/Description of Problem: (1) Analysis, design validation, and documentation efforts were underestimated. Some documentation was incomplete, ambiguous or lacking detail: these necessitate additional man-hours for analysis and design finalization. (2) Some crossover with title 3 engineering has occurred - (a) due to machine access field data/measurements were possible, (b) Feedback received from vendors/fabrication: these have produced design modifications. (3) CAD models and detailed drawings required rework - (a) per PPPL procedures (b) due to model functionality: these required additional designer man-hours.</p> <p>Impact: CPI to continue same trend until design validation efforts and procurements are completed.</p> <p>Corrective Action: Stop all EAEM charges to this account. Complete validation and documentation with minimal support from EAEM group. Ensure further EAEM charges are title 3 effort. Where applicable, use conservative judgment and/or prior experience to facilitate design finalization, documentation, and procurements. Ensure title 3 efforts are clearly defined and charged accordingly.</p> <p>Monthly Summary (to include technical causes of VARs, Impacts) and Corrective Action(s): Underestimation, design validation requirements, and additional analysis requirements have led to a negative cost variance on this Control Account.</p>											
Prepared by: M. Smith				Date: 2/27/2012		Approved by:  3/13/2012				Date:	

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5. Evaluation

5200 DCPS (Hatcher)

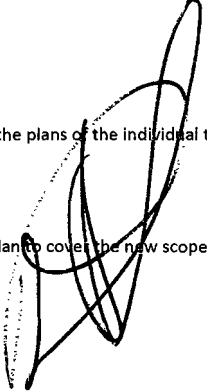
	Budget	Earned	Actuals	SV in \$	SV in %	CV in \$	CV in %	SPI	CPI
Current:	53	9	38	-44	-83%	-29	-331%	0.17	0.23
Cumulative:	610	476	469	-134	-22%	7	2%	0.78	1.02
	BAC	EAC	VAC in \$	VAC in %	TCPI to BAC	TCPI to EAC			
At Complete:	2,493	2,480	14	1%	1.00	1.00			

Explanation of Variance/Description of Problem:
 The DCPS project went through a series of changes initiated by Engineering including a change (increase) in scope. The personnel working on the job have also changed. Some effort was expended getting the new personnel up to speed.

Impact:
 The FDR may slip, but at present we are attempting to stick to the original FDR date. Other dates will be determined by the new execution plan.

Corrective Action:
 Work is proceeding on estimating and scheduling the new DCPS scope and re-focusing efforts of team personnel. A meeting is scheduled to consolidate the plans of the individual team members into a new overall system plan.

Monthly Summary (to include technical causes of VARs, Impacts) and Corrective Action(s):
 The DCPS project has been re-scoped with the new requirements document approved at the end of January 2012. We are currently formulating a new plan to cover the new scope. Individual assigned to specific tasks are being asked to refocus their energies to the updated tasks and scope.

Prepared by: **Ronald Hatcher** Date: **2/27/2012** Approved by:  Date: **3/13/2012**

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5. Evaluation

7100 Project Management & Integration (Strykowski)

	Budget	Earned	Actuals	SV in \$	SV in %	CV in \$	CV in %	SPI	CPI
Cumulative:	2,617	2,617	2,927	0	0%	-311	-12%	1.00	0.89
	BAC	EAC	VAC	VAC in %					
At Complete:	5,809	7,290	-1,481	-25%					

Explanation of Variance/Description of Problem:

Cost variance to date is forecast to continue which could manifest into a 25% overrun in budget. There are 2 major drivers; #1) to support efficient field operation the work control center has and will continue to require an additional 2 fte's per year to prepare and review job package, procedures, and coordinate work. These people are primarily senior lab and shop (Joe Winston and Frank Jones). Additionally, a parts expeditor was added (Steve DePasqual) to ensure time delivery of parts to the field crews. #2) The efforts to prepare for and maintain EVMS certification has required and will continue to need an additional 1.7 FTE of project controls staff (Steve Langish and Orlando Guzman).

Impact:

This EAC assume the project will be completed six months earlier than planned. Should the project stretch out project cost would grow by \$54k/month

Corrective Action:

Continue to look for opportunities to reduce WCC and Project control staff. Once the CS fabrication tasks begin I look to partially re-assign staff to support that effort. Consider updating the PMB to reflect the current staffing by applying contingency.

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

Work Control Center support and continued support of EVMS have led to a negative cost variance.

Prepared by:

R.L.Strykowski

Date:

2/24/2012

Approved by:

Mike Williams

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Date: 2012.02.28 08:45:14 -05'00'