



12 GeV Upgrade VARIANCE ANALYSIS REPORT

WBS: 1.3.3.1 - Construction Accelerator Systems Cryogenics Accelerator
Control Account Manager: D. Arenius
For Period Ending: Aug 13

12 GeV 1.3.3.1	SCHEDULE FLAG				COST FLAG			
	(A)	(B)	(B-A)	(B/A)	(C)	(D)	(C-D)	(C/D)
	Planned Value	Earned Value	Schedule Variance	Schedule Perform Index	Earned Value	Actual Cost	Cost Variance	Cost Perform Index
	BCWS	BCWP	SV	SPI	BCWP	ACWP	CV	CPI
Month of Aug-13	0	962	962	No PV	962	873	89	1.10
Cumulative	20468	20452	-17	1.00	20452	22953	-2502	0.89

Yellow Flag: Index <.9 / >.1 OR Variance > \$25K

Red Flag: Index <.8 / >.2 AND Variance > \$50K

1. Cause (Address Variances Individually)

CV: The cumulative cost variance is -\$2502K. This is a slightly more positive variance of -\$2591K of July 2013, . The cost variance improvement is attributed to less than expected cost of the 4.5K cold box milestone (1.3.3.1.2) and the completion of the transfer line work under 1.3.3.1.12. The remaining negative cost variance associated with the CHL warm helium compressors of -\$335K, and a negative cost variance associated with the 1.3.3.1.10 CHL piping installation of -\$1855K. WBS activities 1.3.3.1.1, 1.3.3.1.2, 1.3.3.1.3, 1.3.3.1.6, 1.3.3.1.7, 1.3.3.1.8, 1.3.3.1.9, 1.3.3.1.10 and 1.3.3.1.11 are now closed to labor and have no further account activity. Only the account 1.3.3.1.12 (CHL Transfer Line) remains open to labor charges until Sept 15, 2 013..

1.3.3.1.1 -\$335K, The CHL warm helium compressors had a previous cumulative cost variance of -\$241K. Of the cumulative -\$335K cost variance, -\$276K was caused by the procurement of control equipment for the compressors which were budgeted under 1.3.3.1.7 (Instrumentation and Controls). This WBS activity is closed and has no further labor account activity.

1.3.3.1.2 -\$236K , This WBS activity is closed for further JLab labor activity with an unrecoverable amount of \$-236K

1.3.3.1.3 +\$71K, Oil Removal Vessels and is due to procurements less than expected. There has been no change in this variance since July 2011 through January 2012. The positive cumulative variance is unrecoverable. This WBS activity is complete and closed to further JLab labor activity.

1.3.3.1.6 -\$54K, CHL Gas Management Rack, increased cost of component procurement and is unrecoverable. There has been no change in this variance since July 2011 through January 2012. This activity is complete and closed. The variance is unrecoverable.

1.3.3.1.7 \$51K, CHL Instrumentation and Controls has a cumulative cost variance of \$51K . The cost was a result of less than expected labor for the installation of the compressor controls but was offset as a more intensive effort is anticipated for completing the 4.5K cold box control installation and calibration requirements. The variance activity is unrecoverable and closed for further labor activity.

1.3.3.1.8 +\$35K, Instrument Air System has a cumulative positive cost variance of +\$35K. The cause of the positive cost variance was less than expected equipment procurement cost. This work scope is complete and closed from further JLab labor activity. The variance is unrecoverable.

1.3.3.1.9 +\$10K, Motor Control Centers has a cumulative positive cost variance of +\$10K. This account is complete and closed. The cost variance was caused by less than anticipated purchase material cost and is unrecoverable.

1.3.3.1.10 -\$1855K , The variance is a slightly improved variance from -\$1884K from May 2013, The CHL mechanical installation incurred rigging and mechanical labor costs greater than expected. This account is now closed to labor charges. The -\$1855K is unrecoverable.

1.3.3.1.11 +\$82K, CHL Commissioning, The cost variance caused slightly less than expected costs associated with commissioning the controls for the gas management systems. The variance is unrecoverable. This account is now closed to labor charges.

1.3.3.1.12 -\$269K Transfer Line, The task material and labor to install and fabricate the linac transfer line equipment was greater than expected resulting in costs which are only partially recoverable. It is expected that this cost variance will be modestly more positive as the installation work is completed within the next month. The previous month of May variance was -\$270K and a June variance of -\$274K and July of -\$330K. The cause of the recent increase in negative Cv is attributed to combining the installation of all transfer lines in parallel in one limited accessible area. Although this was the most efficient it resulted in none of the individual lines being completely installed during the past reporting month. Completion is expected in the next month (Sept 15, 2013).

Summary:

Cumulative Total Cost Variance as of this report is -\$2502K. This is slightly more positive than the cost variance of -\$2560 of May 2013 and -\$2574 of June 2013 and -\$2591 of July 2013. Transfer line fabrication and installation (1.3.3.1.12 is expected to be complete by Sept 15th 2013..

Of the -\$2502K CV, the recoverable/unrecoverable/error amounts in \$K are -\$20K/ -\$2482K/0K

SV:

The Sv improved from July at -\$979K to -\$17K as CHL#2 transfer line fabrication and installation are neared completion by Sept 15, 2013.

2. Proposed Solutions (Corrective Actions)

CV: To limit the cost variance, tight control of the remaining work will be conducted to maintain and/or improve upon the performance of the remaining CHL installation.

3. Impact on Project Cost/ Schedules

		Cost Variance Projection						
	CVcum (K)	Sep	Oct	Nov				
Recoverable	\$	-20	0	0				
Unrecoverable	\$-2502	-2482	-2482	0				
Error	\$0	0	0	0				

Current report indicates a 12 percent cost overrun while remaining behind schedule due to late vendor deliveries.

4. Comments

Control Account Manager:
Dana M. Arenius

Project Manager:
Leigh Harwood
D. Miner for C. Rode

Aug	Planned Value	Earned Value	Schedule Variance	Schedule Perform Index		Earned Value	Actual Cost	Cost Variance	Cost Perform Index
	BCWS	BCWP	SV	SPI		BCWP	ACWP	CV	CPI
	12 GeV 1.3.3.1.1								
Month of Aug-13	0	0	0	No PV		0	0	0	No AC
Cumulative	3850	3850	0	1.00		3850	4186	-335	0.92
12 GeV 1.3.3.1.2									
Month of Aug-13	0	846	846	No PV		846	818	29	1.04
Cumulative	12251	12251	0	1.00		12251	12487	-236	0.98
12 GeV 1.3.3.1.3									
Month of Aug-13	0	0	0	No PV		0	0	0	No AC
Cumulative	446	446	0	1.00		446	375	71	1.19
12 GeV 1.3.3.1.6									
Month of Aug-13	0	0	0	No PV		0	0	0	No AC
Cumulative	171	171	0	1.00		171	225	-54	0.76
12 GeV 1.3.3.1.7									
Month of Aug-13	0	0	0	No PV		0	0	0	0.00
Cumulative	1078	1078	0	1.00		1078	1027	51	1.05
12 GeV 1.3.3.1.8									
Month of Aug-13	0	0	0	No PV		0	0	0	No AC
Cumulative	112	112	0	1.00		112	77	35	1.45
12 GeV 1.3.3.1.9									
Month of Aug-13	0	0	0	No PV		0	0	0	No AC
Cumulative	258	258	0	1.00		258	248	10	1.04
12 GeV 1.3.3.1.10									
Month of Aug-13	0	0	0	No PV		0	0	0	0.00
Cumulative	1457	1440	-17	0.99		1440	3296	-1855	0.44
12 GeV 1.3.3.1.11									
Month of Aug-13	0	0	0	No PV		0	0	0	0.00
Cumulative	267	267	0	1.00		267	185	82	1.44
12 GeV 1.3.3.1.12									
Month of Aug-13	0	116	116	No PV		116	54	61	2.12
Cumulative	579	579	0	1.00		579	847	-269	0.68