



12 GeV Upgrade VARIANCE ANALYSIS REPORT

WBS: 1.4.2.7.3 - Construction Hall B Magnet New Vendor Infrastructure
Control Account Manager: L. Elouadrhiri
For Period Ending: Aug 13

12 GeV 1.4.2.7.3	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	0	0	No PV	0	10	-10	0.00
Cumulative	1338	911	-427	0.68	911	1414	-503	0.64

Yellow Flag: Index <.9 / >1.1 OR Variance > \$25K
Red Flag: Index <.8 / >1.2 AND Variance > \$50K

1. Cause (Address Variances Individually)

SV: Setting up the line to perform the copper channel measurement is taking longer than planned. Some \$427K in the SV is due to the soldering vendor needing to complete work for another Hall before beginning the Hall B work, resulting in four missed peg points. Improvements to the line have been implemented. The setup has been completed and the first 5 Reels of conductor have been completed. The work was to have been completed by now.

CV: The cumulative cost variance is -\$503K, the monthly CV is -10K. This CV is due to more labor required to complete the work of setting up the conductor soldering line at JLab than budgeted for. The line was used for measuring and QA/QC of the copper channel for the solenoid but has since been shut down. There is also effort needed to pack and ship SSC cable, and copper channel to AES, the soldering vendor. The cost of this effort was underestimated. There is also effort required to test the conductor in house. Soldering extra reel of the TORUS and testing additional SSC cable and producing additional copper channel that were not part of the baseline schedule. Additional scope of work to clean the conductor was added.

2. Proposed Solutions (Corrective Actions)

SV: The soldering started in March. Further contract pegpoints will be missed although progress should be steady, resulting in an apparent SV. AES has completed the 7 TORUS reels. Preparing for the cleaning and switching to soldering the conductor for the solenoid. We have a continuous presence of our engineers and technicians at AES during production and during all the critical phases of the project. The soldering was to have been completed by now, thus there is no further BCWS on this WBS. Soldering is proceeding and should be complete for the Torus by late September. It can start for the Solenoid in early November. Thus the SV will improve steadily from here forward.

CV: The cost of this effort was underestimated, thus an unrecoverable CV for this WBS 1.4.2.7.3 is -\$503K. Work is proceeding at the vendor under terms of a contract. Test samples must be checked at U. Twente to certify reels of SSC cable for soldering, which will add \$20K to the CV.

Estimated Resolution By (Date): The CV is not recoverable.

3. Impact on Project Cost/ Schedules:

According to the current AES schedule, the schedules for Torus at FNAL and Solenoid at ETI can be met. AES has completed soldering 7 TORUS reel and they are preparing for the conductor cleaning and the solenoid conductor fabrication. The quality of the soldering process is being checked.

Schedule Variance Projection					
Sep	Oct	Nov	Dec	Jan	Feb
-427	-427	-330			

Sep	Oct	Nov	Dec	Jan	Feb
-427	-427	-330			

		Cost Variance Projection					
	CVcum (K)	Sep	Oct	Nov	Dec	Jan	Feb
Recoverable	\$						
Unrecoverable	\$ -503	-525	-530	-540	-540	-560	-600
Error	\$						

4. Comments:

Additional production of copper channel and qualifying of additional SSC cable and testing for both the TORUS and the Solenoid. Has been evaluated and procurement placed. In addition additional steps in producing the conductor at AES have been added to the process namely buffing and re-buffing of the conductor.

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