



12 GeV Upgrade VARIANCE ANALYSIS REPORT

WBS: 1.4.2.7.2 - Construction Hall B Magnet New Vendor Solenoid
Control Account Manager: L. Elouadrhiri
For Period Ending: Aug 13

| 12 GeV 1.4.2.7.2 | 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 | 119 | 4 | -115 | 0.04 | 4 | 53 | -49 | 0.08 |
| Cumulative | 1035 | 401 | -635 | 0.39 | 401 | 706 | -305 | 0.57 |

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

1. Cause (Address Variances Individually)

SV: This is due to the late IDR and FDR. IDR has been completed only 50% and the FDR is delayed until the IDR is completed. The IDR is to be completed in September and FDR is scheduled to be conducted in September also but is expected to be completed not before November. The schedule in contrast has the IDR and FDR complete and the winding and potting tooling complete at the vendor (about \$400K of the SV), and also has the local machine shop effort at over 90% complete (\$230K of SV), although in reality this work has not started.

CV: The cumulative CV is -\$305K. This is due in part to the design work of the cryogenic system to review and verify the important calculations of the important parameters of the solenoid design from the company. This work is not captured in the baseline schedule. The rest of the CV is due to local and BNL engineering work to check vendor calculations and respond to IDR submissions, which are still incomplete.

2. Proposed Solutions (Corrective Actions)

SV: Detailed outstanding action items from the IDR has been developed and submitted to the vendor. Weekly phone meeting with the vendor is scheduled to monitor the progress. Also visits to the vendor sites have been taken place for face to face discussion. The response to the action items has been received and it is currently under review. A visit to the vendor is scheduled for September. The vendor has indicated he will not start work on tooling until the FDR is accepted, thus making significant improvement in the SV requires the FDR to be done.

CV: The local engineering effort must continue thus the CV will continue to increase until the rebaseline schedule is implemented.

Estimated Resolution By (Date): 9/31/13

3. Impact on Project Cost/ Schedules:

The impact on the cost is captured in the rebaseline schedule.

| Schedule Variance Projection | | | | | |
|------------------------------|------|------|-----|-----|-----|
| Sep | Oct | Nov | Dec | Jan | Feb |
| -640 | -660 | -700 | | | |

| | | Cost Variance Projection | | | | | |
|----------------------|-----------|--------------------------|--------|------|------|------|------|
| | CVcum (K) | Sep | Oct | Nov | Dec | Jan | Feb |
| Recoverable | \$ | | | | | | |
| Unrecoverable | \$ -305 | \$-350 | \$-400 | -450 | -500 | -550 | -600 |
| Error | \$ | | | | | | |

4. Comments:

In addition to the work at the vendor to produce the magnet, the in-house work for cryogenics, controls is not captured in detailed in the baseline schedule.

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