LIU-PSB Budget Review

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9th October 2014
Introduction

• The goal of these slides is to review the budget of the LIU-PSB project.
• Budget shown in terms of EVM graphs, extracted from APT, see https://pptevm.cern.ch/apt/gui/#WU.
• The budget reviewed covers the time from the beginning of the project until today.
• A useful list of indicators below:

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Definition</th>
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<tbody>
<tr>
<td><strong>PV - Planned Value</strong></td>
<td>The portion of work expected to be completed at a given date, times the authorized budget allocated to carry out that work</td>
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<tr>
<td><strong>EV - Earned Value</strong></td>
<td>The value of completed work expressed in terms of the budget assigned to that work</td>
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<tr>
<td><strong>AC - Actual Cost</strong></td>
<td>The costs actually incurred and recorded in accomplishing the work performed</td>
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<tr>
<th>Indicator</th>
<th>Formula</th>
<th>Note</th>
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<tr>
<td><strong>SV – Schedule Variance</strong></td>
<td>SV = EV – PV</td>
<td>If SV is negative, the activity is behind schedule. If SV is positive, the activity is ahead of schedule.</td>
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<tr>
<td><strong>SPI - Schedule Performance Index</strong></td>
<td>SPI = EV / PV</td>
<td></td>
</tr>
<tr>
<td><strong>CV – Cost Variance</strong></td>
<td>CV = EV – AC</td>
<td>If CV is negative, the budget tends to be overrun. If CV is positive, the budget tends to be underrun.</td>
</tr>
<tr>
<td><strong>CPI - Cost Performance Index</strong></td>
<td>CPI = EV / AC</td>
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LIU-PSB Budget Overview

• LIU-PSB has negative SV because of the low level of expenditure during 2014. At the time of the last EVM report in July 2014 the SV was -2,692 MCHF. Fork increased in the last months, but it is expected to catch-up in the future.

• LIU-PSB has a negative CV. To be watched in the future if this a trend or simply a momentary fluctuation.
LIU-PSB – 1. Management

- Following closely the planned budget, but spending less than expected.
LIU-PSB – 2. Beam Dynamics

• Tendency to be behind schedule and underrun the budget. Nevertheless this is a smaller budget with the respect to other WPs in the project.

• To be followed up what happened in the period between February and June 2014.
LIU-PSB – 3. Magnets

- Behind schedule and with a slight tendency to be overrun.
LIU-PSB – 4. RF Systems

• A bit behind schedule and with the slight tendency to be overrun.
LIU-PSB – 5.1 Booster Injection

• Behind schedule and with the slight tendency to be overrun.
LIU-PSB – 5.2 2GeV Upgrade

- Behind schedule and with the slight tendency to be overrun.
LIU-PSB – 6. Beam Instrumentation

• Behind schedule and with the slight tendency to be overrun.
LIU-PSB – 7. Beam Intercepting Devices

- Behind schedule and with a slight tendency to be overrun.
- Possible issue with reporting the progress. To be followed up.
LIU-PSB – 8. Vacuum

- Behind schedule and with a tendency to be overrun.
- Possible issue with reporting the progress. To be followed up.
LIU-PSB – 9. LINAC4 to PSB transfer line and PSB injection systems

• Behind schedule and with a tendency to be overrun.
LIU-PSB – 10. PSB Extraction system and PSB-PS transfer line

- Slightly behind schedule but in sync with the allocated budget.
LIU-PSB – 11. Controls

• Slightly behind schedule, but spending less than planned.

Metrics on the 08-Oct-2014

<table>
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<tr>
<th>PV (kCHF)</th>
<th>EV (kCHF)</th>
<th>AC (kCHF)</th>
<th>PV Total (kCHF)</th>
<th>SV (kCHF)</th>
<th>SPI (%)</th>
<th>CV (kCHF)</th>
<th>CPI (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>210</td>
<td>189</td>
<td>173</td>
<td>330</td>
<td>-21</td>
<td>90</td>
<td>16</td>
<td>109</td>
</tr>
</tbody>
</table>
Behind schedule and so far spent small part of their budget. Contribution expected to grow in the future.
LIU-PSB – 13. Cooling and Ventilation

- Tendency to overrun the budget. Contribution expected to grow in couple of years.
LIU-PSB – 14. Installation, Transportation and Handling

- Spot on with the planned schedule and with a tendency to underrun the budget. Good as additional money could be needed for items not originally foreseen, e.g. moving the reference magnet.
Spot on with the planned schedule and with a tendency to underrun the budget.
LIU-PSB – 20. Survey

- On time without having spent money... Anyway smaller budget with respect to the other WPs.
LIU-PSB – 23. Half Sector Test and Stripping Foil

- Behind Schedule and with a slight tendency to overrun the budget.

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<td>64</td>
<td>88</td>
<td>980</td>
<td>-172</td>
<td>23</td>
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<td>73</td>
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Conclusions

• Review the current baseline (3.1) for the LIU-PSB project.

• WP 15, Civil Engineering is not yet in the baseline. This will be corrected for the new baseline (end of the year).

• Budget for building 245 approved last meeting, see https://twiki.cern.ch/twiki/bin/view/PSBUpgrade/MinutesMeeting25September2014.

• Please remember to report your progress monthly.

• Plan to start working on a new baseline soon.