

The HPS SVT and SVT DAQ: Organization, Schedule, Budget

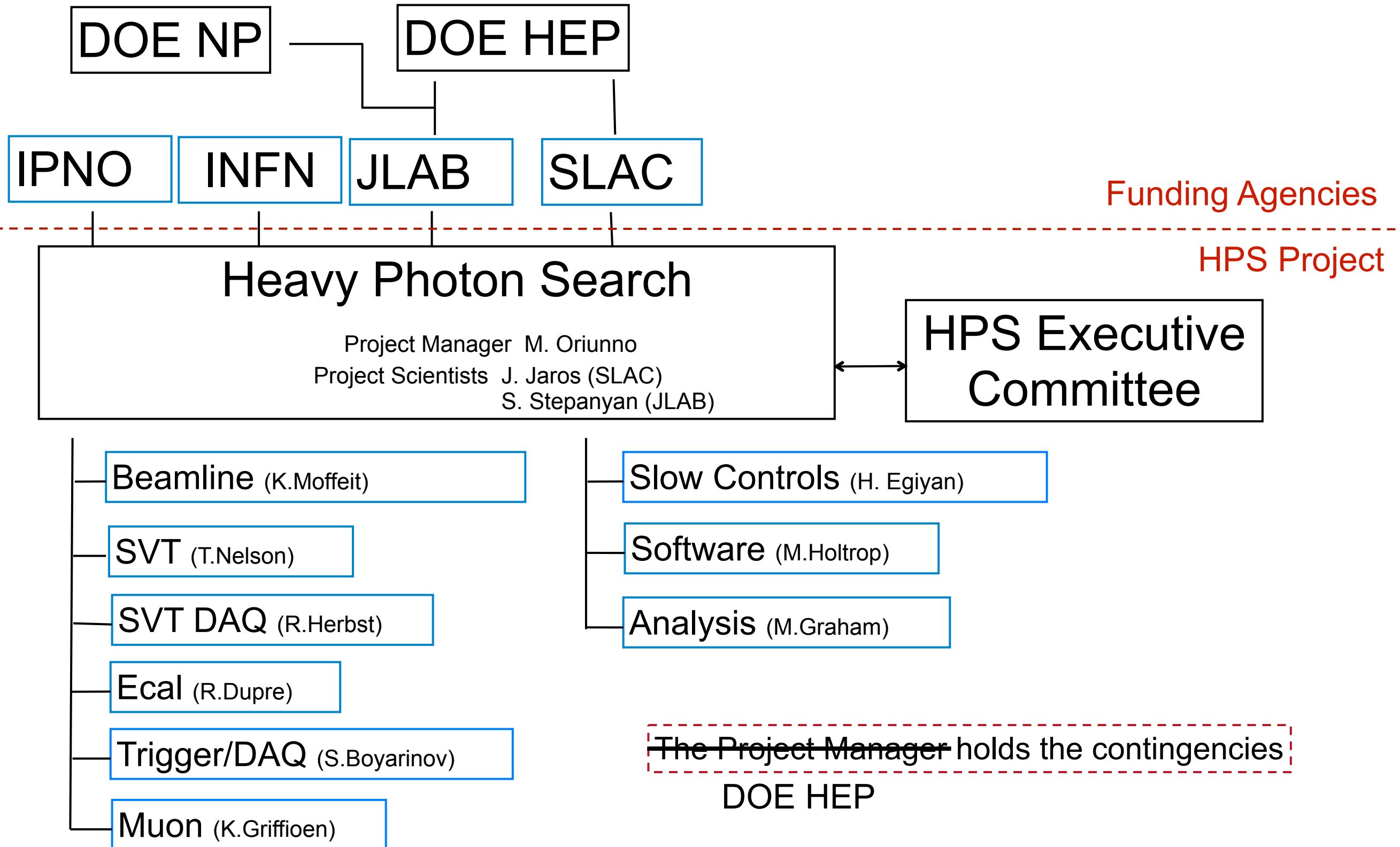
Tim Nelson - SLAC

SVT/SVT DAQ Review

November 5, 2013



HPS Organization Chart



SVT and SVT DAQ Organization

SVT

SLAC - Hansson, Jaros, Maruyama, McCulloch, [Nelson](#), Oriunno, Osier, Swift, Uemura, SLAC Techs

UCSC - Fadeyev, Grillo, Martinez-McKinney, Moreno, UCSC Techs

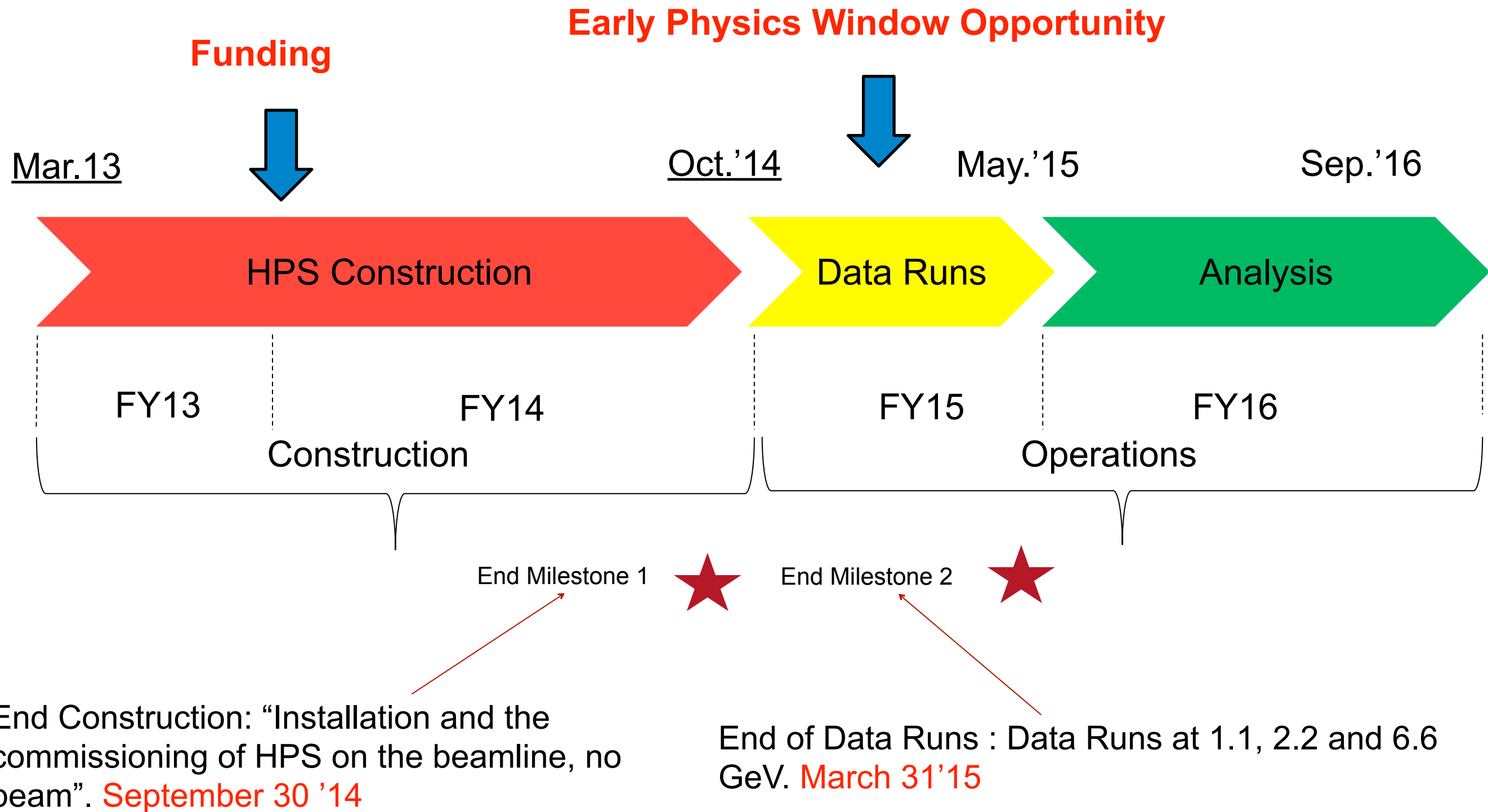
FNAL - Cooper, Schellpfeffer, FNAL Techs

SVT DAQ

SLAC - Hansson, [Herbst](#), Jaros, Nelson, Phan, Reese, Salgado, Uemura, SLAC Techs

UCSC - Fadeyev, Grillo, Martinez-McKinney, Moreno, UCSC Techs

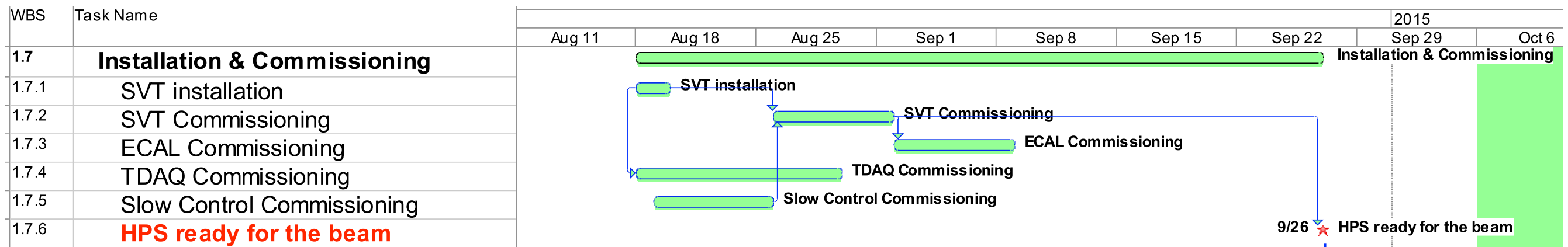
Schedule Drivers – Endgame Milestones



Schedule – Installation, Commissioning and Data Runs



Installation in Hall-B ~2 wk at the end of August, done by the same crew of the Test Run



Commissioning and Data Run	Duration	Start	End
Beamline Commissioning (2014)	1 wk	29-Sep	3-Oct
Detector Commissioning Run (2014)	2 wks	6-Oct	17-Oct
Data Run 2.2GeV (2014)	2 wks	20-Oct	31-Oct
Data Run 1.1 GeV (2014)	2 wks	3-Nov	14-Nov
Beamline recommissioning (2015)	2 wks	5-Jan	16-Jan
Data Run (2015)	8 wks	19-Jan	13-Mar

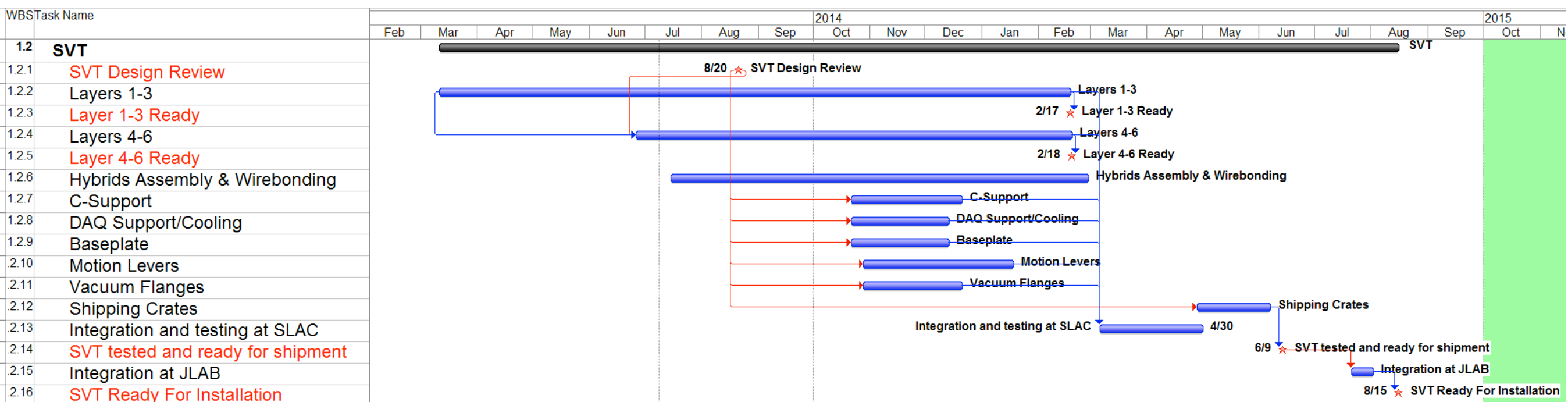
Proposal Schedule – SVT Mechanics



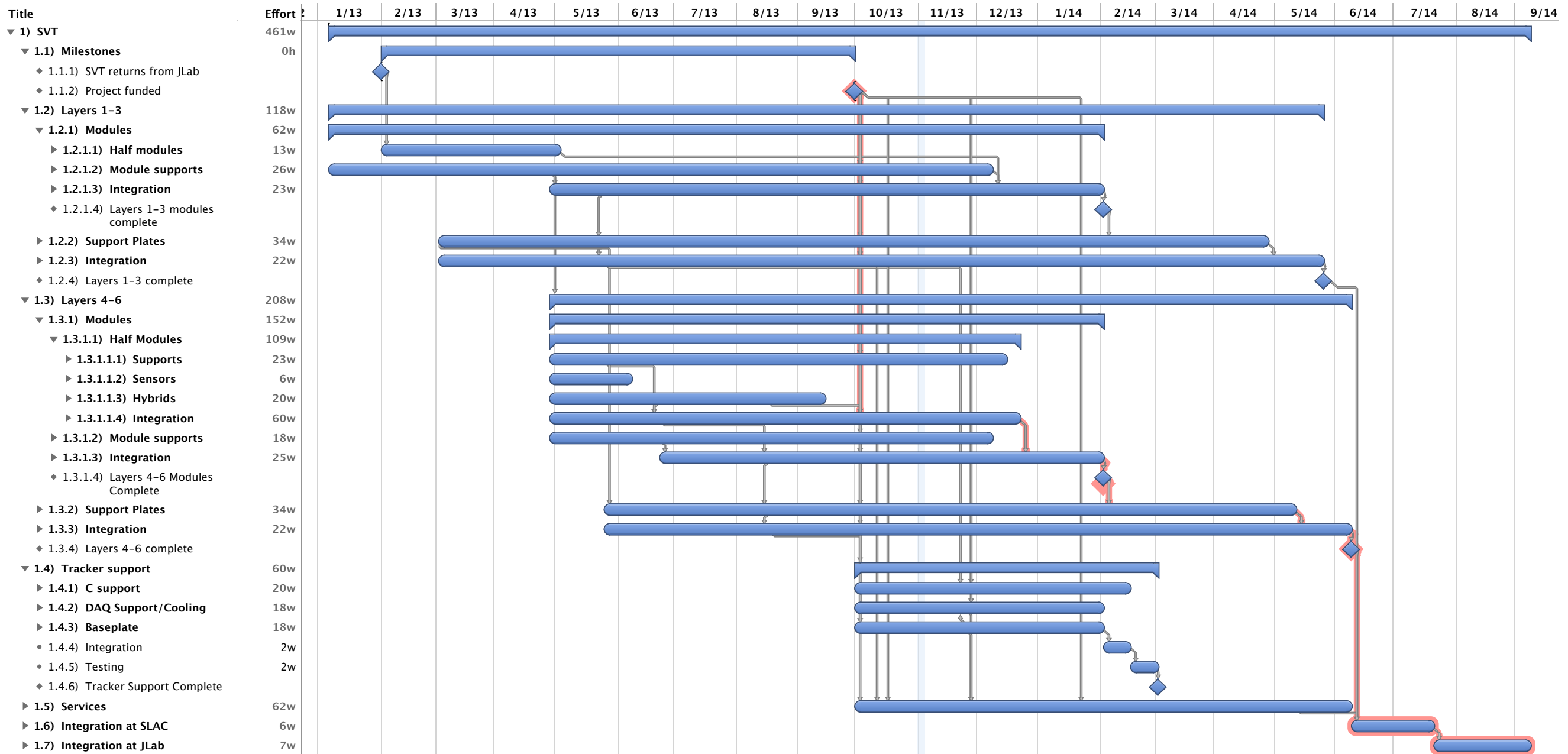
Milestones&Reviews

SVT+DAQ Engineering Design Review	20 – Aug- 2013
Layer 1-3 Ready	17 – Feb - 2014
Layer 4-6 Ready	18 – Feb - 2014
SVT Ready for Shipment (Tested with DAQ)	9 - June - 2014
<u>SVT + DAQ Ready For Installation</u>	<u>15 – Aug - 2014</u>

Work C-Supports, Baseplate...can start only > Oct'13
(Driven by Manpower Availability, not on the Critical Path)

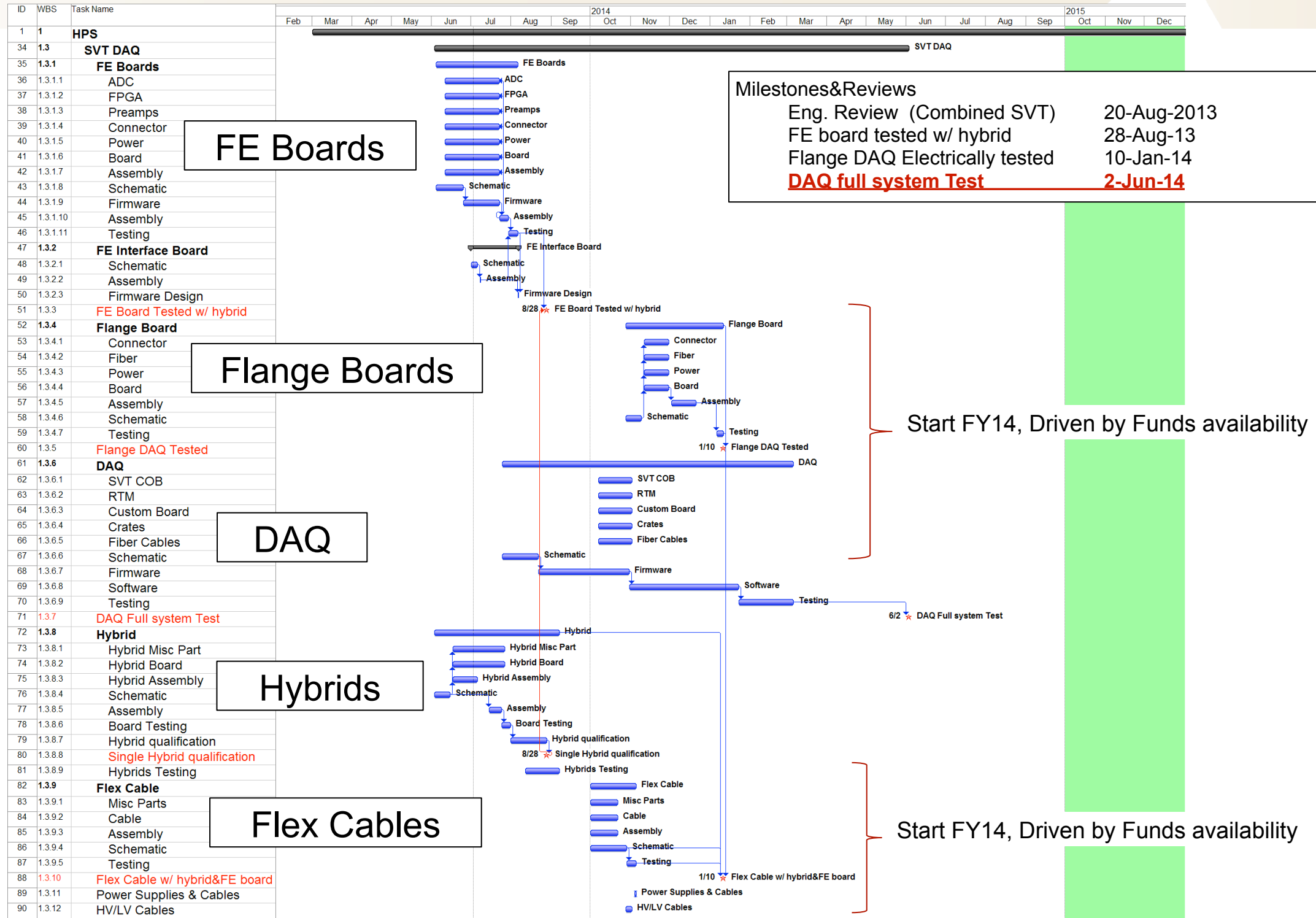


Leveled SVT Schedule with Dependencies



L4-6 module components are late by 3 months,
 However, they are determining critical path by only 6 weeks.

Schedule – SVT DAQ



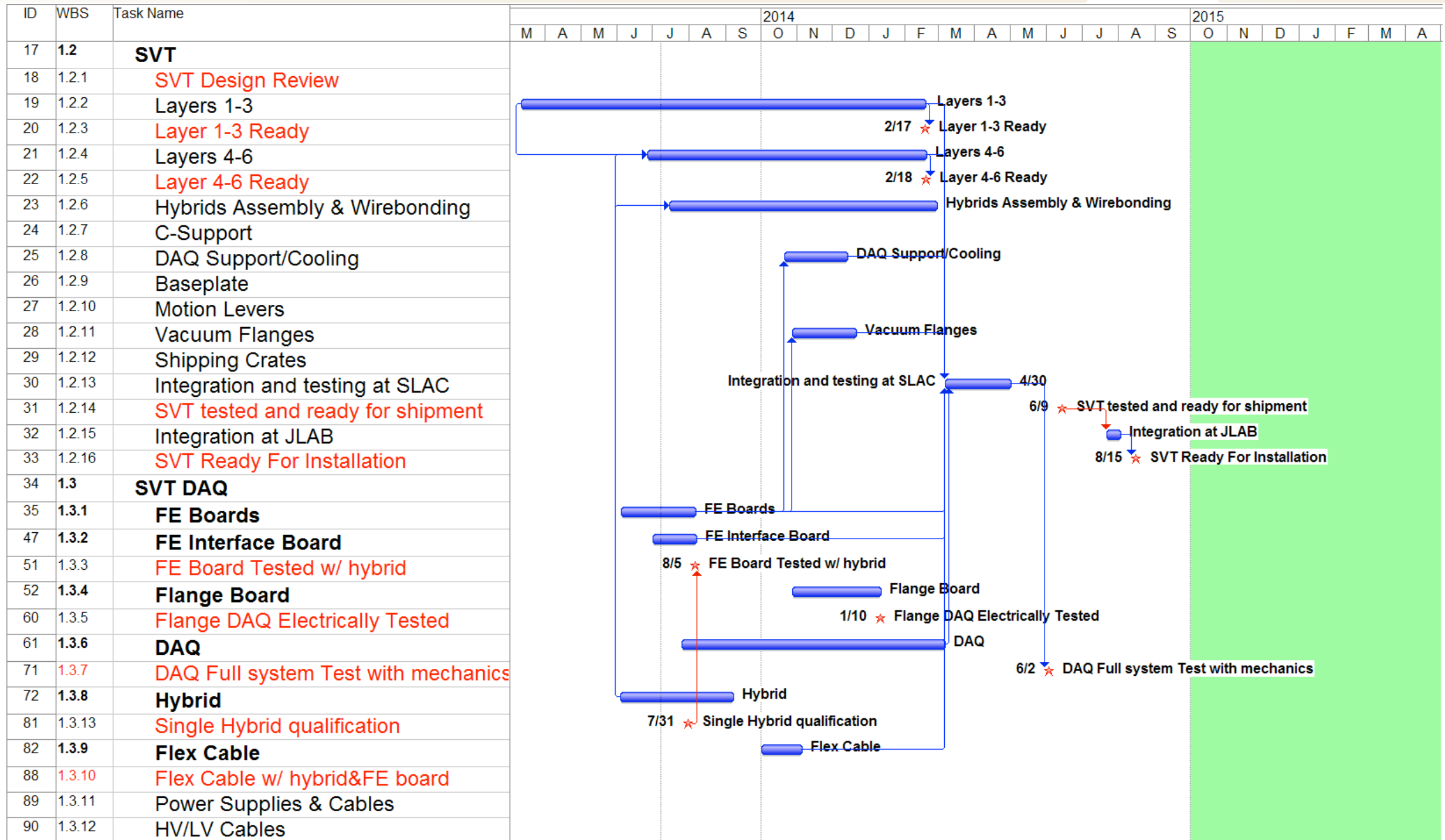
Milestones&Reviews	Date
Eng. Review (Combined SVT)	20-Aug-2013
FE board tested w/ hybrid	28-Aug-13
Flange DAQ Electrically tested	10-Jan-14
DAQ full system Test	2-Jun-14

Start FY14, Driven by Funds availability

Start FY14, Driven by Funds availability

Late on hybrids and FE boards, early on some tasks not scheduled until 2014 (FPGA software)

Schedule – SVT + DAQ Integration



Would like to integrate key DAQ tasks into more detailed, leveled schedule.

Costs Methodology



1. Schedule and Costs are simultaneously managed with MSProject
2. Tasks are tracked down to WBS Level 3 Min.
3. Labor is added in hours by skills. M&S as number of required units
4. Only Engineering Labor + Overheads (SLAC = 53% ^{Lab.}, 7.65% ^{M&S}, JLAB = 49% ^{Lab.}, 49% ^{M&S})
5. Inflation 2.5% per year
6. Contingency :
 - 10% Catalogue Items
 - 20-25% Similar to previous design
 - 30-50% New design

WBS	Task Name	Labor	Material	Total	Labor w/Cont.	Material w/Cont.	Total w/Cont.	Spares	Proto.	Ops	Infra.	Capital Eq.
1.2	SVT (S)	\$346K	\$161K	\$507K	\$452K	\$204K	\$656K	\$8K	\$10K	\$75K	\$43K	\$539K
1.3	SVT DAQ (S)	\$342K	\$264K	\$608K	\$431K	\$352K	\$782K	\$70K	\$11K	\$80K	\$162K	\$540K

Full Details in Proposal WBS (pages I45-I48)

Monthly meetings, PM (Chair) + Prj.Sci.s + Subgroup Leaders

Schedule Management

Tracking of Schedule and Milestones

Financial Management

Tracking WBS

Quality Management

Consistency with Requirements (Reviews)

Resource Management

Manpower Leveling

Risk Management

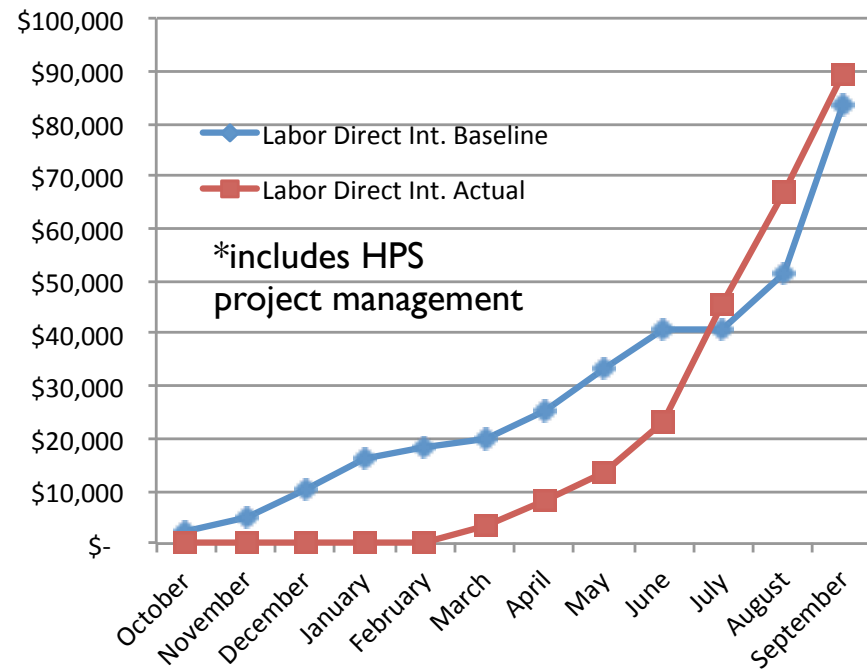
Risk Assessment and Mitigation

Procurement Management

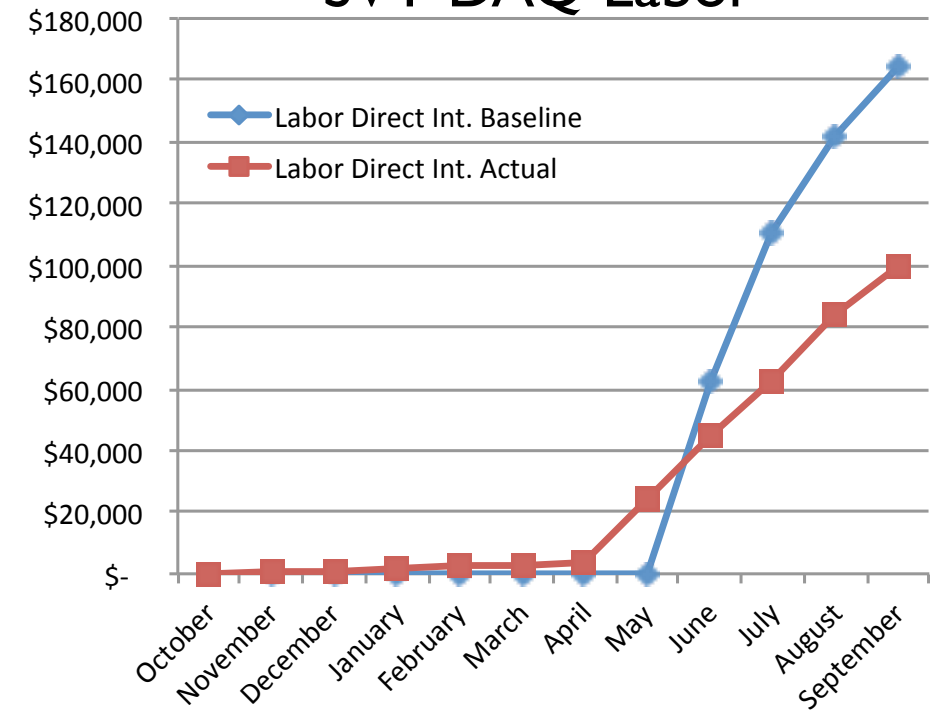
Purchase of Items > \$15k

FY13 Spending Profiles

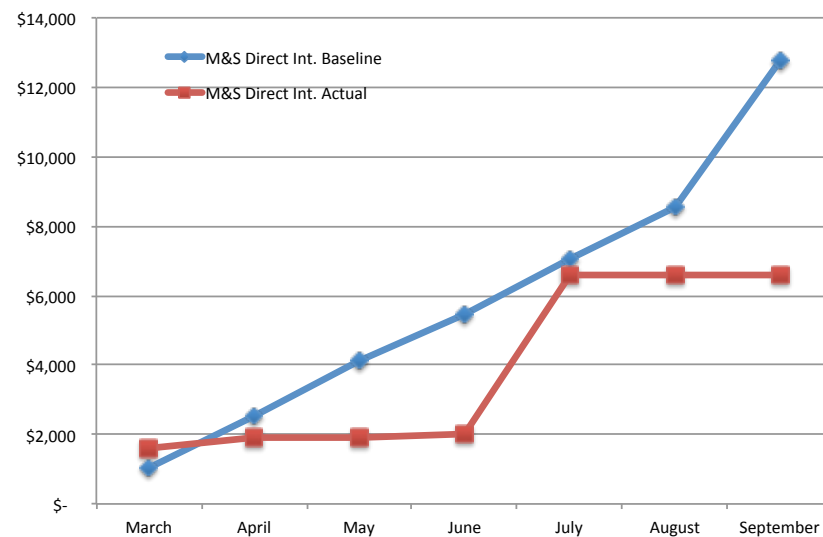
SVT Mechanical Labor *



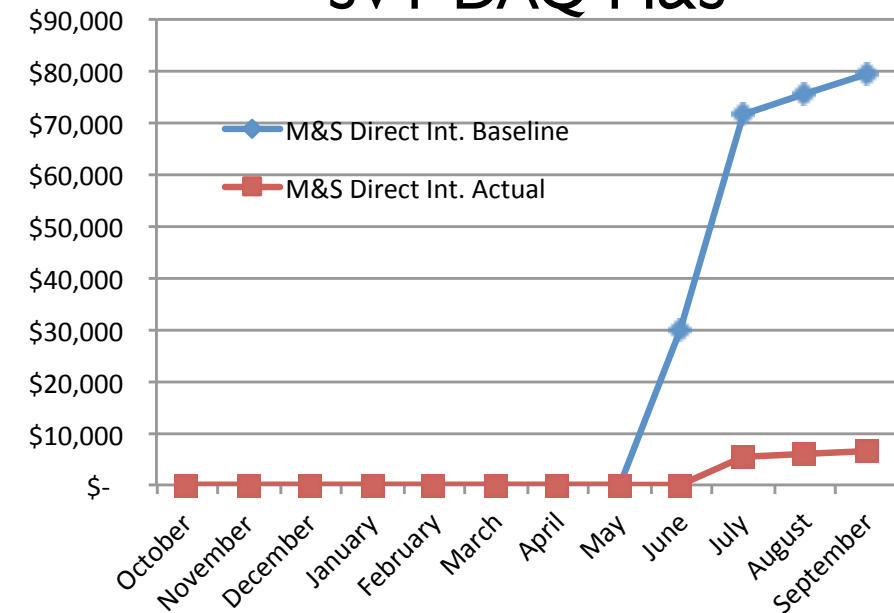
SVT DAQ Labor



SVT Mechanical M&S



SVT DAQ M&S



Engineering/design roughly as expected. Behind on procurement, especially for DAQ

Summary

- SVT and SVT DAQ are manned by well integrated team of silicon experts with required technical facilities and resources
- A detailed schedule for the SVT exists and shows the project approximately 6 weeks behind. Overall, the SVT DAQ appears to be similarly behind. Much of this time can be made up without reducing float.
- Both projects are budgeted very conservatively. We both expect to complete the projects under budget. However, current underspending is largely due to a late ramp of purchasing.