



PIXEL Schedule and Budget

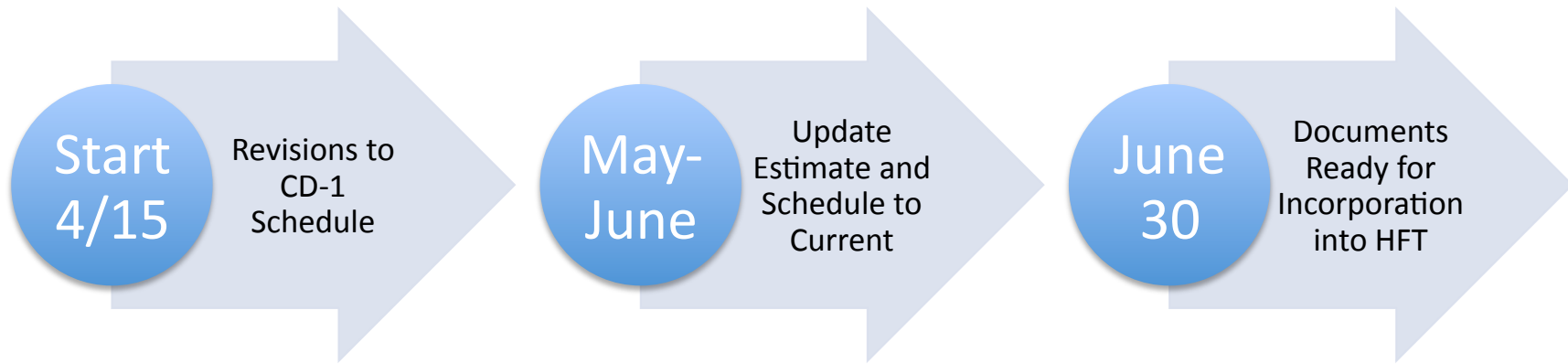
S. Morgan

LBNL

Assumptions

- CD 2/3 Review before the end of FY10 (September)
 - Dry Runs/Vetting in August
 - Documents to DOE 2 weeks before review
- Project Management by BNL
 - Reporting from Institutions coordinated by BNL
 - Contingency held by BNL
 - Formal Change Control to be utilized
- Reporting for redirected labor at level 3 of the WBS
 - Practically this means tracking redirected staff at a summary level and providing estimate as back-up/justification
- Funds to come to LBNL as a Work For Others Contract
 - Implications for burden applications, Annual funding and other being assessed
 - Receipt of Funds will eventually work its way through
- Tracking Milestones to be identified at least quarter
- PIXEL Documents will require time for incorporation into HFT documents as a whole

PIXEL Timeline (Near Term)



Documents in Process by PIXEL Team

- Inputs to PEP
 - Performance Baseline (Scope/Schedule/Budget)
 - Revising CD-1 Schedules and Budgets
 - Resource Loaded Schedule with appropriate durations
 - Evaluation of Critical Path (in as far as it runs through PIXEL)
 - Developing a PIXEL Basis of Estimate/Justification
 - Revising Contingency Back-up
 - Confirm WBS and Dictionary
 - Inputs to Risk Assessment
 - Design Documents
- Inputs to EH&S Documents
- Assistance with MOUs and work with WFO group

Where we are today

- Schedule documents as they were at CD-1 are being revised
 - Electronics Resource Loaded
 - Mechanical and Integration having durations added and logic confirmed
- Reviewing impact of changes in funding plans
- Reviewing impact of funding delays
 - Have received no monies for FY10 and it isn't clear what the timing for balance of FY10 funds let alone out year budget

What's next

- Resource Loaded Schedule
 - Review for reasonableness
 - Review for float and critical path
 - Agree to Milestones and Phasing
 - Updated Basis of Estimate
 - Need Quotes
 - Need to add escalation
 - Document Overheads and Burdens
 - Document Assumptions
 - Need to unify as PIXEL Estimate
 - Hand-off for Integration
- Contingency Analysis
 - Require Guidance for Inputs into Project
- Risk Analysis
 - Require Guidance for Inputs into Project

pPEP Funding Profile

\$M						
	FY 10	FY 11	FY 12	FY 13	FY 14	Total
R&D	0.2					0.2
PED/EDIA	1.8					1.8
Cons		3.4	6.0	5.5	0.9	15.8
Pre-Ops						0.0
TEC	1.8	3.4	6.0	5.5	0.9	17.6
TPC	2.0	3.4	6.0	5.5	0.9	17.8
Planned Redirects	0.6	0.5	0.6	0.7	0.2	2.6
New funds Required	1.4	2.9	5.4	4.8	0.7	15.2

WBS	Title	Cost	Contingency %	Contingency \$	Low range	High Range
1.1	Project Management	1.0	29%	0.3	1.1	1.4
1.2	Pixel	4.6	35%	1.6	5.4	6.8
1.3	Intermediate Silicon Tracker (IST)	2.6	36%	1.0	3.1	3.9
1.4	Silicon Strip Detector (SSD)	0.7	44%	0.3	0.8	1.1
1.5	Integration	1.3	46%	0.6	1.6	2.1
1.6*	Software	0		0	0	0
	subtotal	10.1	37%	3.7	12.0	15.2
	Redirected Labor	2.6		0	2.6	2.6
	Total Project Cost	12.8		3.7	14.6	17.8

* WBS 1.6 scope will be accomplished at no cost to the project using Contributed Labor. Contingency dollars for this scope are held in the Project Management WBS (1.1) and will be allocated prior to CD-2.

Burden implications for WFO vs Fabrication

Standard Procurement (WFO)		
Purchase Cost		\$1,000
Procurement Burden	7.9%	\$79
		\$1,079
IGPP (applied to direct cost and burden)	1.15%	\$12
LDRD (applied to direct cost and burden)	5.4%	\$58
General Rate (applied to burden only)	51.0%	\$40
Total Standard Procurement		\$1,190

Standard Procurement (Fabrication)		
Purchase Cost		\$1,000
Procurement Burden	7.9%	\$79
		\$1,079
Fabrication Rate (applied to burden only)	31.1%	\$25
Total Standard Procurement		\$1,104

From Fleming's March Presentation

- On-Project labor is defined as the effort associated with preliminary/final design, construction, and assembly. The scope is included in the work breakdown structure; the cost is included in the HFT TPC and is funded by the DOE.
- Redirected labor is also associated with all design, construction, and assembly. The scope is included in the work breakdown structure; the cost is included in the HFT TPC and is planned as a redirection of base DOE funding at LBNL, BNL and MIT.
- Contributed labor is scientific and IT labor supporting the overall development and operational capability of the HFT detector within the STAR experiment including software and physics analysis models. Contributed labor cost is not included in the HFT TPC but tasks and milestone dates related to this scope are embedded in the HFT Project schedule. Part of the funding comes from the DOE Base for Heavy Ion Physics Research Program

Reporting/Control from Fleming

- Redirected labor will be tracked by each institution on a monthly basis and will be appropriately included in the Total Project Cost (TPC).
- Contributed labor will be tracked from reports by institutions which will reflect the overall fractional time spent by individuals on the HFT project. This information will be reported at the DOE NP annual review.
- Progress on all tasks will be monitored by sub-system managers by having sufficiently frequent milestones at level 4, such that task completions are noted, and changes to the schedule float (+/-) can be evaluated as soon as possible.
- Non-DOE contributed labor will be tracked by monitoring milestones set forth in the MOUs.