

### HFT Pre-CD2 Deliverables

Due Date	Description of Documents	Action
12/31/09	1) Ladder system test plan, including air cooling effects 2) Annual breakdown of project cost, by institution, including WBS 1.6	LGR,HW – Draft by 12/11 FV+Institutions. 1.1-1.5 12/11 draft 1.6 12/23 draft – the wbs has to be worked out more.
1/31/10	3) Updated PEP, with procedures for monitoring redirected and contributed labor, plus strategy for dealing with cost overruns	1/8 draft paragraph+ supporting (FV,KM, Ernst)
3/1/10	4)Evaluation of SSD vs. 2 <sup>nd</sup> IST layer 4a) not rec but APD chip issue	GvN,BS – work out cost estimate once
Prior to scheduling CD-2 review	4) Simulations justifying detector performance requirements, spelling out physics impact of shortfall in meeting requirements, especially radiation layer thickness and low-pT coverage 5) Compare significance of HFT results to earlier anticipated PHENIX results with VTX, FVTX	
Prior to CD-2 review	7)Triggering strategies and PXL replacement strategies 8)Grounding and shielding plan (include radiation damage effect on regulators) 9)Added milestones to define critical path 10)Consistent methodology for project contingency, including risk of design changes resulting from engineering run 11)Identify scope contingency and possibility of installing descoped HFT for Run 14 12) Re-evaluation of CD-4 deliverables	

	<p>13) Increase project management team subject matter expert support</p> <p>14) Include el engineer on management team</p>	
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1. The draft report by Leo addresses some of the issue of the system test, but not that of long term stability, cooling and vibrations. (see draft close-out page 4 top)
2. For wbs 1-5 this break out almost exists in forms of the man-power table put together at the review, and the cost break-downs for each. FV will talk to each inst for this, provide template to fill in
  - a. Template + information needed 12/8.
  - b. Information back by 12/11.
  - c. Wbs 1.6 – FV+SM work out details what belongs into this wbs, and what the manpower needs are.
3. Some thoughts: monitor via mile-stones in wbs. Identify the high risk tasks in this, add real \$'s for contingency, even if labor is contributed (for hires, support)
4. Can be done much sooner than 3/1. Requires work on both IST and SSD side. Summarize total cost (labor, material,..) and timelines (The later is quite important I think. This can start once the tasks for 2) is completed
  - a. The SSD budget needs scrutiny, particular the non-electronics part
  - b. For IST it should be relatively easy to work out, going back to CD-0 estimates. It would be good also for the baseline budget to have newer information from Hamamatsu.
5. Simulations:
  - a. Establish timeline for reviewing this, establishing needed simulations. Broader input from STAR.
  - b. SM, HGR, NX,++
  - c. Should be completed at latest by March – depends strongly on what simulations
  - d. This an next item is part of same package.
  - e.
6. Compare to Phenix.
  - a. Raises the question what to compare to,
7. Not really part of recommendations, but in comments.
8. Establish work plan , including design review, so the plan can be signed off (LG,HW,MJL,GvN,GV)
9. Part of developing the resource loaded schedule and cost – follow guidelines.
10. As 7.
11. There are two parts here
  - a. Defer/delay part of project so PXL + ? can be ready for run-14. The current schedule actually does that. Are there other pieces that might be shifted to speed up the early PXL
  - b. I interpret scope contingency, as parts that might not be done at reduced performance, or increased risk by smaller system. By no mean straight forward.
12. This recommendation did actually not give a time-line. Assume it is for CD-2 readiness review. It is related to the evaluations of current simulations i.e. what range of parameters can be relaxed or given s a range.
13. Need a better definition what this mean precisely. Bob Ernst, Kerry and I have to work this out (with physics dept here).

14. This clearly can not be full-time (would add 0.9-1.2 M\$) if on project. What is needed? I see the request as el eng coordination.