

System description	Cost Estimates received for								Regional			sent WBS	anticipated uncertainty	cost est provided?	cost est uncertainty	wbs dictionary	basis of estimate	person-hours	commodity fractions	Comments
	common	e-	e+	DR	RTML	ML	BDS	Exp	Am	Asia	Eur									
e- Source		partial										yes							15july - includes KAS but not magnets	
e+ Source			partial									yes							17jul7 - not including magnets	
DR				d.								yes							DR (12july) incomplete see note d.	
RTML					partial							yes							17july - needs some magnets & PS	
Main Linac																				
BDS							b.					yes								
Com, Op, Reliab																			not expecting a cost estimate	
Control System	√	√	√	√	√	√	√					yes		yes					incl LLRF, not Gen. Computing	
Cryogenics - a.		√	√	partial	√	√	partial					yes	±20%to30%						a. plus incomplete BDS & DR	
CF&S	√	√	√	√	√	√	85%b	√	√	√	√	yes	-10%,+30%	yes 3 reg					incomplete, nothing yet on e- e+	
Installation	√	√ f.	√ f.	√ f.	√ f.	√ f.	√ f.					yes							only highest level roll-ups - 12july06	
Instrumentation	√	√	√	√	√	√	√					yes	±20-50%						received estimate 11july & note e.	
Cavities				√	√	√			√		√								Don't have Asian est for Cavities	
Cryomodules		g.	g.	√	g.	g.			√	√	√								g. US Cav & CM are in-house studies	
RF	√	√	√	√	√	√			√	√	√	yes	±20%to30%	yes 3 reg					BDS will do RF for crab cavities	
Magnets & PS				d.			90%b												has wiggler magnets, not wiggler vacuum	
Dumps & Collim	√	√	√	√	√	√						list	± 50%						D&C received 11july06	
Vacuum		c. \cold	\cold	√ d.	√	√	√												still need warm vacuum for e- & e+ Sources	
Accel Phys																			not expecting a cost estimate	

Notes:

- a. Cryogenics: new (6july06) inflation factor for Linde's plant cost 2006\$/1998CHF = 1.53 compared to previous = 0.96 (13june06) - **big change**
Tom Peterson says use the 7/7/06 EXCEL spreadsheet which updated costs since PowerPoint for warm gas storage, cooling toweres, liquid helium storage
- b. BDS (8july06): has most inputs from TS groups, for CF&S: needs dump halls & shielding, and division between 20 mr, 2 mr, and common costs for Magnets & PS: still need estimates for SC octupoles, anti-solenoid, and detector dipole(?)
- c. e- Source (10july06) Axel says he will have cost estimates for Installation and Instrumentation, but not yet for Dumps/Collimators and Vacuum.
Cost Engineers are working to understand unit costs for CM (including cavities). What about Magnets/PS? MPS/PPS hardware/interlocks responsibility of AS Groups.
- d. Damping Rings: (11july rev 12july) partial cost est - does not include injection/extraction lines, pulsers and kickers; abort lines & dumps; wiggler vacuum; dipoles, magnet supports.
Andy questioned why CF&S costs drastically increased since 28may
Andy sent a revision on 14july which inadvertently deleted many CF&S elements
- e. Instumentation says anticipated cost est uncertainties will be ±20-40% BPM, ±50% Laserwires
- f. Installation (12july) only submitted highest level roll-ups - scales previous - only single line for each AS - need to understand more details - seems to be converted to all labor <=> commercial companies?
- g. Main Linac Cryomodules (including Cavities) - have Unit Costs for use by Area System Leaders for Vancouver presentations - 14july06

Reminder: don't post cost estimates on public web or wiki sites!

additional technical groups that may be needed for further cost estimating work: alignment, safety (incl MPS and PPS), computing, "supports & movers"