

SCRF WebEx Meeting

May 14, 2008

1. Report from PMs and APMs
2. Technical Design Phase R&D plan (rev. 3)
 1. High Gradient R&D guideline
 2. S1-global preparation
 3. Work-package organization update
3. Report from Group Leaders, if any

Report from PMs and APMs

- SCRF meeting at Fermi Lab, April 21-25
 - Minutes prepared, and comments appreciated
 - Work-packages should function now
- Cost Management Group meeting at DESY, May 5-8
- TD-Phase R&D plan rev. 2
 - SCRF part updated (still need to be improved: S2, MLI)
 - SCRF appendix and work-package to be further updated
 - Submitted to FALC-RG
- Talks to be served at Conferences
 - EPAC-08 (June 22):
 - “Coordinated Global R&D Effort for the ILC Linac Technology”
 - ASC-08 (Aug. 26):
 - “Superconducting RF Cavity Development for the ILC”

Cavity: Work-packages

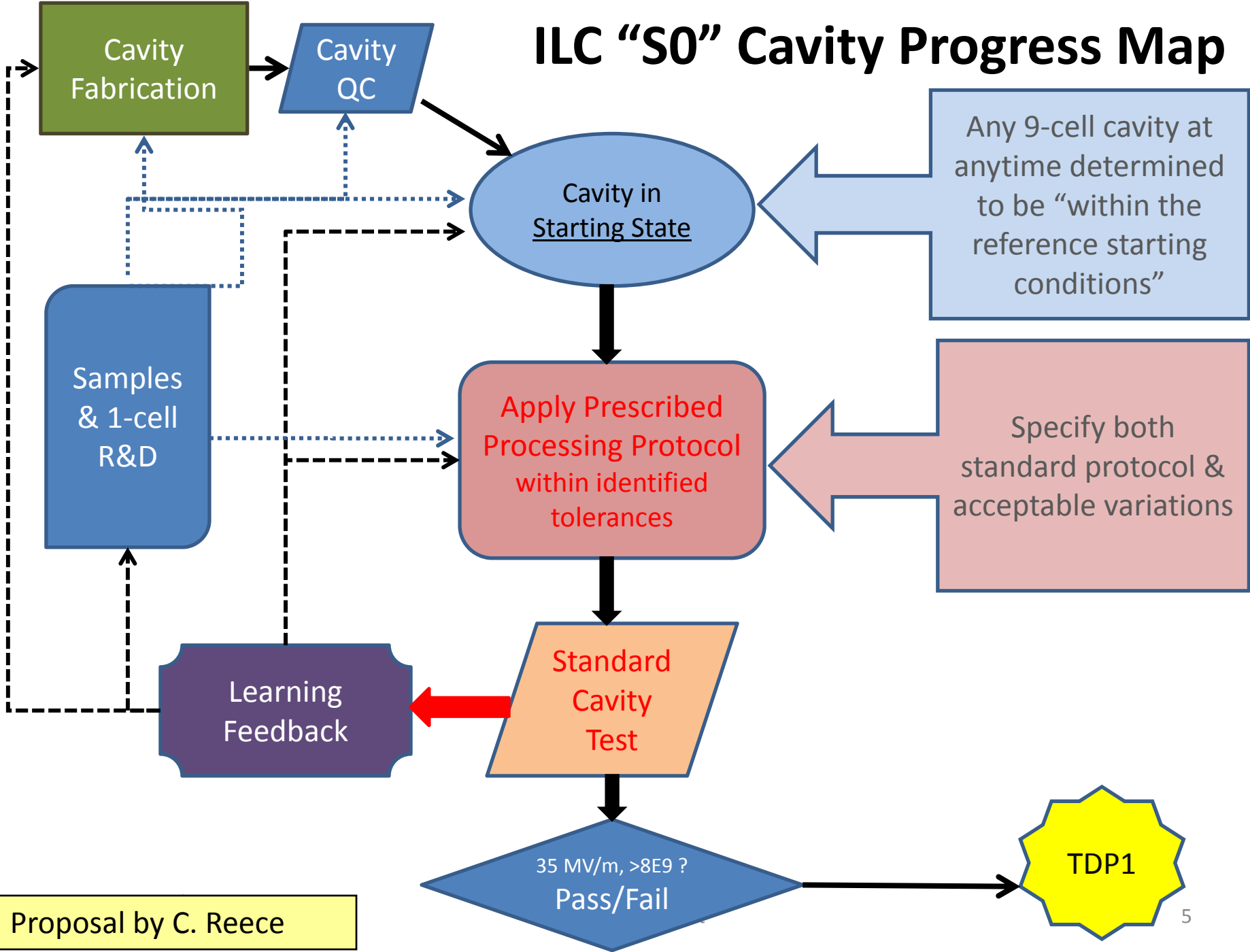
	Dec. 07 (ED-plan)	TDP-R&D (proposed)	Coordinator
1.1.1	Gradient performance	Gradient performance & specification	LL, HH, MC
1.1.2	Fabrication specification		
1.1.3	Process specification		
1.1.4	Specification		
1.1.5		Industrialization and cost ?	LL, TS

Guideline: Standard Procedure and Feedback Loop

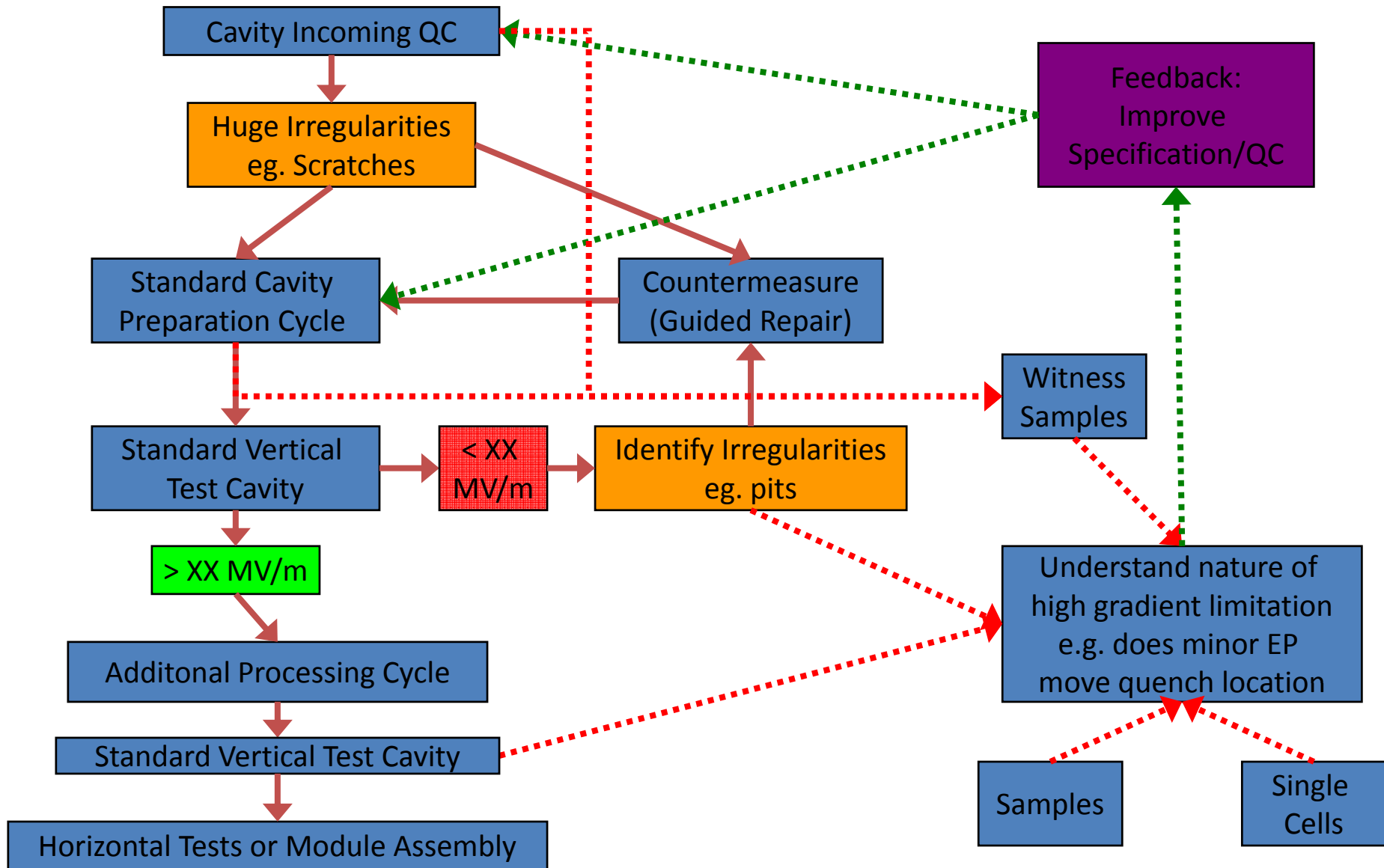
	Standard Fabrication/Process	(Optional action)	Acceptance Test/Inspection
Fabrication	Nb-sheet purchasing		Chemical component analysis
	Component (Shape) Fabrication		Optical inspect., Eddy current
	Cavity assembly with EBW		Optical inspection
		(Tumbling)	(Optical Inspection)
Process	EP-1 (Bulk: ~ 150um)		
	Ultrasonic degreasing (detergent) or ethanol rinse		
	High-pressure pure-water rinsing		Optical inspection
	Hydrogen degassing at 600 C (?)		
	Field flatness tuning		
	EP-2 (~20um)		
	Ultrasonic degreasing or ethanol	(Flash/Fresh EP) (~5um)	
	High-pressure pure-water rinsing		
	General assembly		
	Baking at 120 deg. C		
Cold Test (vertical test)	Performance Test with temperature mapping		If cavity not meet specification Optical inspection



ILC "S0" Cavity Progress Map



ILC S0 Feedback Loop

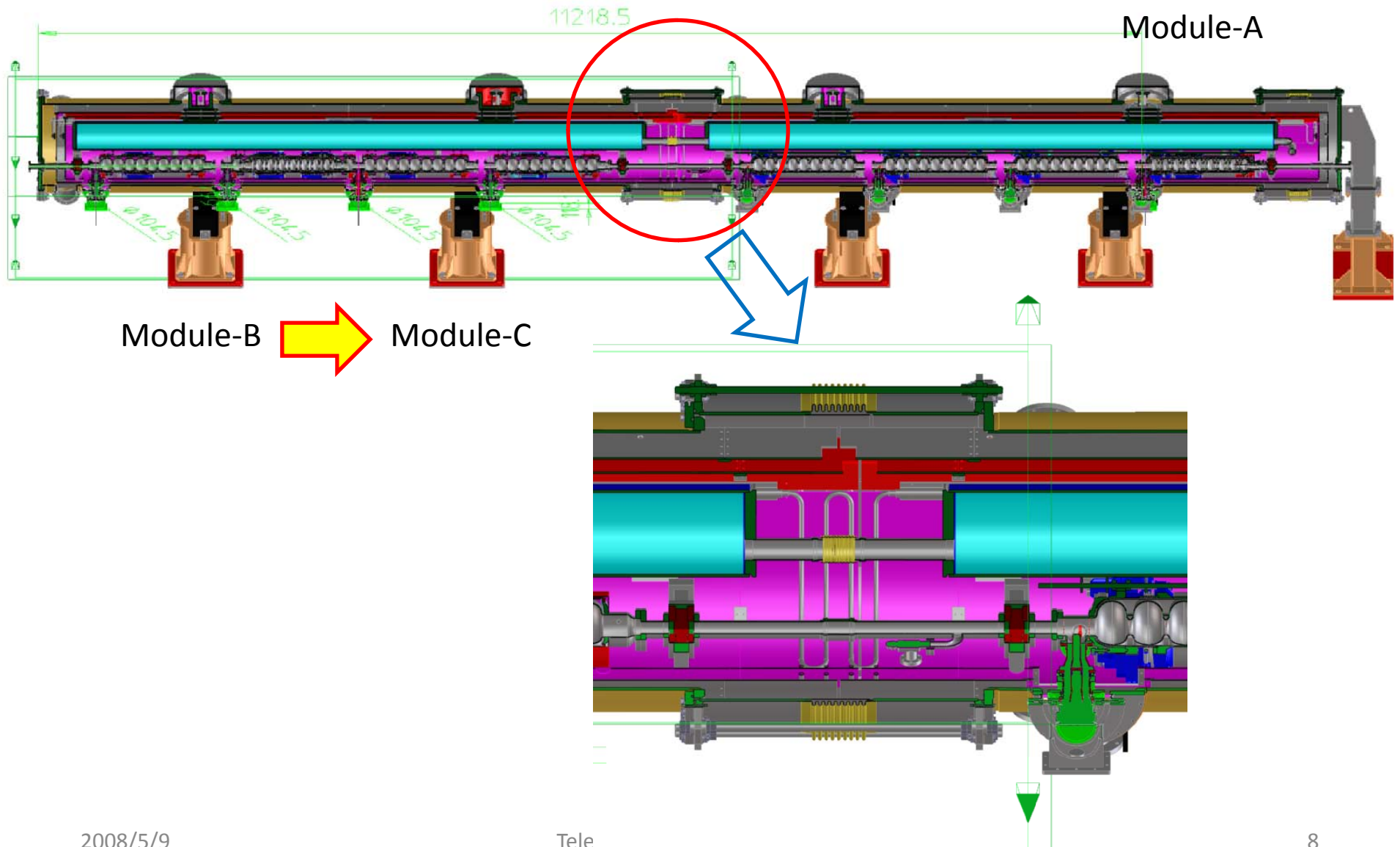


Cavity Integration: Work-packages

	Dec. 07 (ED-plan)	TDP-R&D (proposed)	Coordinator
1.2.1	Tuner	Tuner	HH
1.2.2	Input coupler	Input coupler	
1.2.3	Magnetic shield	Mag. Shield and He-vessel	
1.2.4	He-vessel		
1.2.5	Integration and test	Integration and test High Pressure Code issue	HH
1.2.6	Industrialization	Industrialization & Cost	HH , TS

S1-Global Cryomodule

Norihito Ohuchi



Cryomodule: Work-packages

	Dec. 07 (ED-plan)	TDP-R&D (proposed)	Coordinator
1.3.1	Standardization	Standardization/Plug-compatibility	
1.3.2	Cooling pipe config.	Cold-mass engineering	NO
1.3.3	5-K shield		
1.3.4	Quadrupole assembly	Quadrupole installation	
1.3.5	Assembly process	Assembly and Eng. w/CAD work	
1.3.6	Engineering w/ CAD		
1.3.7	Sys. Performance eval.	System test and	
1.3.8	Transportation	Transportation	
1.3.9	Industrialization/Cost	Industrialization & Cost	NO, RS

Cryogenics: Work-packages

	Dec. 07 (ED-plan)	TDP-R&D (proposed by TP)	Coordinator
1.4.1	Heat loads	Heat loads	
1.4.2	Cryo-plant design	Cryo-plant design and surface impact	
1.4.3	Reliability, repair	Tunnel cryogenic system and Integration	
1.4.4	Venting pressure limit	Venting press. Limits & vessel/piping standard	
1.4.5	Surface impact		
1.4.6	Hazard		
1.4.7	Cryo-box design		
1.4.8	Liquid control		
1.4.9	Optimization of cryogenics		
1.4.10	2K heat exchanger		
1.4.11	Standard (H.P. code)		
1.4.12	E+/e- cryogenics	E+/- sources cryogenics	
1.4.13	DR cryogenics	Damping ring cryogenics	
1.4.14	BDS cryogenics	BDS cryogenics	
1.4.15	RTML cryogenics	RTML cryogenics	
1.4.16	MLI vacuum	Main Linac vacuum	
1.4.17	RTML vacuum	RTML vacuum	
1.4.18		Cost	TP, TS

HLRF: Work-packages

	Dec. 07 (ED-plan)	TDP-R&D (proposed)	Coordinator
1.5.1	Modulator	Modulator	
1.5.2	Klystron	Klystron	
1.5.3	RF power distr. system	RF power distr. system	
1.5.4	HV charger system	HV charger system	
1.5.5	Interlock and control	Interlock and control	
1.5.6		Industrialization and Cost	SF, TS

MLI: Work-packages

	Dec. 07 (ED-plan)	TDP-R&D (proposed)	Coordinator
1.6.1	Quadrupole design	Quadrupole design	
1.6.2	Quadrupole prototype	Quadrupole prototype	
1.6.3	Latt. opt. & Emittance	Latt. opt. & Emittance	
1.6.4	Initial alignment	Initial alignment	
1.6.5	Energy errors	Energy errors	
1.6.6	Static tuning	Static tuning	
1.6.7	Dynamic tuning	Dynamic tuning	
1.6.8	Topics	Topics	
1.6.9		Cost	CA, TS

Next Meetings

- Webex Meeting: Jun 11, July 9
 - Functional parameters, Plug-compatible conditions to be settled.
- Post TTC: Can we manage it ?
- LCWS-08, GDE: We must have meeting