

## ***Draft: Minutes of ML-SCRF Technology Meeting (080514)***

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### Date & Time:

13:00-14:03 GMT, May 14, 2008, using WebEx.

### Participants:

H. Hayano, N. Ohuchi, T. Peterson, S. Fukuda, C. Adolphsen, E. Paterson, N. Toge, A. Yamamoto, N. Walker, J. Carwardine, W. Bialowons, J. Kerby, T. Hutt, C. Pagani, W. Funk, S. Mishra, JLab(?), T. Shidara

### Agenda:

#### **1) Status report from PM (FALC-RG and other meetings)**

- SCRF meeting at Fermilab, April 21-25  
Minutes prepared, and comments appreciated  
Work-packages should function now
- Cost management group meeting at DESY, May 5-8  
Cost management issues during TDP were discussed. Traceability check of the RDR estimates is important and will be drilled down by the cost management group members. Cost reduction items like two-to-one tunnel, cooling water, and others were reviewed.
- TD-Phase R&D plan rev. 3.  
SCRF part was updated (still needs to be improved: S2, MLI)  
SCRF appendix and work-package need to be further updated  
Submitted to FALC-RG
- SCRF related Invited talks to conferences (A.Y.)  
EPAC-08 (June 22): "Coordinated Global R&D Effort for the ILC Linac Technology"  
ASC-08 (August 26): "Superconducting RF Cavity Development for the ILC"

#### **2) Technical Design Phase R&D plan (rev. 3)**

##### 2-1) High-gradient R&D guideline:

- Guideline for fabrication/process proposed (A.Y. in discussion with L.L. and H.H.); Details will be discussed next week by the work-package coordinator, Lutz.

##### 2-2) S1-global preparation:

- Cooperation in cryomodule development between INFN/KEK (C.P., N.O. assisted by K.O. & A.Y.)

##### 2-3) Work-package organization update (A.Y.)

- Modification of the WPs is approved by the GLs.

- GLs are requested to nominate the related WP coordinators within a week or two (before Dubna GDE meeting, June 3-7).
- Shigeki claimed the difficulty of coordinator nomination for HLRF.
- (Further discussion made in a separate meeting with AY, SF, CA, on the next day).
- See appendix below:

### **3) Meeting schedule**

- WebEx Meeting: June 11, July 9  
Functional parameters and plug-compatible conditions will be settled.
  - Post TTC: Needs to negotiate with D. Proch separately.
  - LCWS-08, GDE meeting, November in Chicago
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Appendix: Work packages revision to be approved

	As of Dec. 07, 2007	TD-phase R&D (updated)	Coordinator
1.1	<u>Cavity</u>		
1.1.1	Gradient performance	Gradient performance and specification	LL HH, MC
1.1.2	Fabrication	---	
1.1.3	Process specification	---	
1.1.4	Specification	---	
1.1.5	---	Industrialization and cost	LL, TS
1.2	<u>Cavity Integration</u>		
1.2.1	Tuner	Tuner	HH
1.2.2	Input coupler	Input coupler	SP
1.2.3	Magnetic shield	Mag. Shield and He-vessel	
1.2.4	He-vessel	---	
1.2.5	Integration and test	Integration, test, H.P. code	HH
1.2.6	Industrialization	Industrialization & cost	HH, TS
1.3	<u>Cryomodule</u>		
1.3.1	Standardization	Standardization	CP
1.3.2	Cooling-pipe config.	Cold-mass engineering	NO
1.3.3	5-K shield	---	
1.3.4	Quadrupole assembl	Quadrupole installation	
1.3.5	Assembly process	Assembly & eng. w/ CAD work	DM
1.3.6	Engineering w/ CAD	---	
1.3.7	Sys. Performance	System test and evaluation	NO
1.3.8	Transportation	Transportation	
1.3.9	Industrialization	Industrialization & cost	NO, RS (TS)
1.4	<u>Cryogenics</u>		
1.4.1	Heat loads	Heat loads	NO
1.4.2	Cryoplant design	Cryoplant design & surface impact	TP
1.4.3	Reliability, repair	Tunnel cryogenics system &	

		integ.	
1.4.4	Venting press. Limit	Vent. press. Limit & vessel/piping standard	TP
1.4.5	Surface impact		
1.4.6	Hazard		
1.4.7	Cryobox design		
1.4.8	Liquid control		
1.4.9	Optim. of cryogenics		
1.4.10	2K heat exchanger		
1.4.11	Standard (H.P. code)		
1.4.12	E+/- cryogenics	E+/- source cryogenics	TP
1.4.13	DR cryogenics	DR cryogenics	
1.4.14	BDS cryogenics	BDS cryogenics	
1.4.15	RTML cryogenics	RTML cryogenics	
1.4.16	MLI vacuum	MLI vacuum	
1.4.17	RTML vacuum	RTML vacuum	
1.4.18	---	Cost	TP, TS
1.5	<u>HLRF</u>		
1.5.1	Modulator	Modulator	CA
1.5.2	Klystron	Klystron	SF
1.5.3	RF power dist. Sys.	RF power dist. Sys.	(CN)
1.5.4	HV charger sys.	HV charger sys.	
1.5.5	Interlock & CNTL	Interlock & CNTL	(SM)
1.5.6	---	Industrialization & cost	SF, TS
1.6	<u>MLI</u>		
1.6.1.1	Quadrupole design	Quadrupole specification	CA
1.6.1.2	Quadrupole proto.	Quadrupole prototype develop.	VK
1.6.2	Beam dynamics	Linac beam dynamics	KK
1.6.3	Dynamic tuning	Wake field and cavity topics	ZL
1.6.4	---	Cost	CA, TS