



CFS & Global Systems TAGL meeting 10th Sept 2008

Agenda

- PM Report (John Carwardine for Marc Ross)
- CFS preparations for ILC08 and CLIC workshop (Vic Kuchler, John Osborne)
- Update: Dubna and GSPI (Wilhelm Bialowons)



PM report Sep 10, 2008:

- **Initiatives**
 - HLRF distribution (“RF Clustering” proposal)
 - Minimum Machine
 - Plug Compatibility
- **Report on the EC meeting, KEK Sept 4-6.**
- **Resources – ‘global systems’**
- **Schedule**



HLRF Distribution

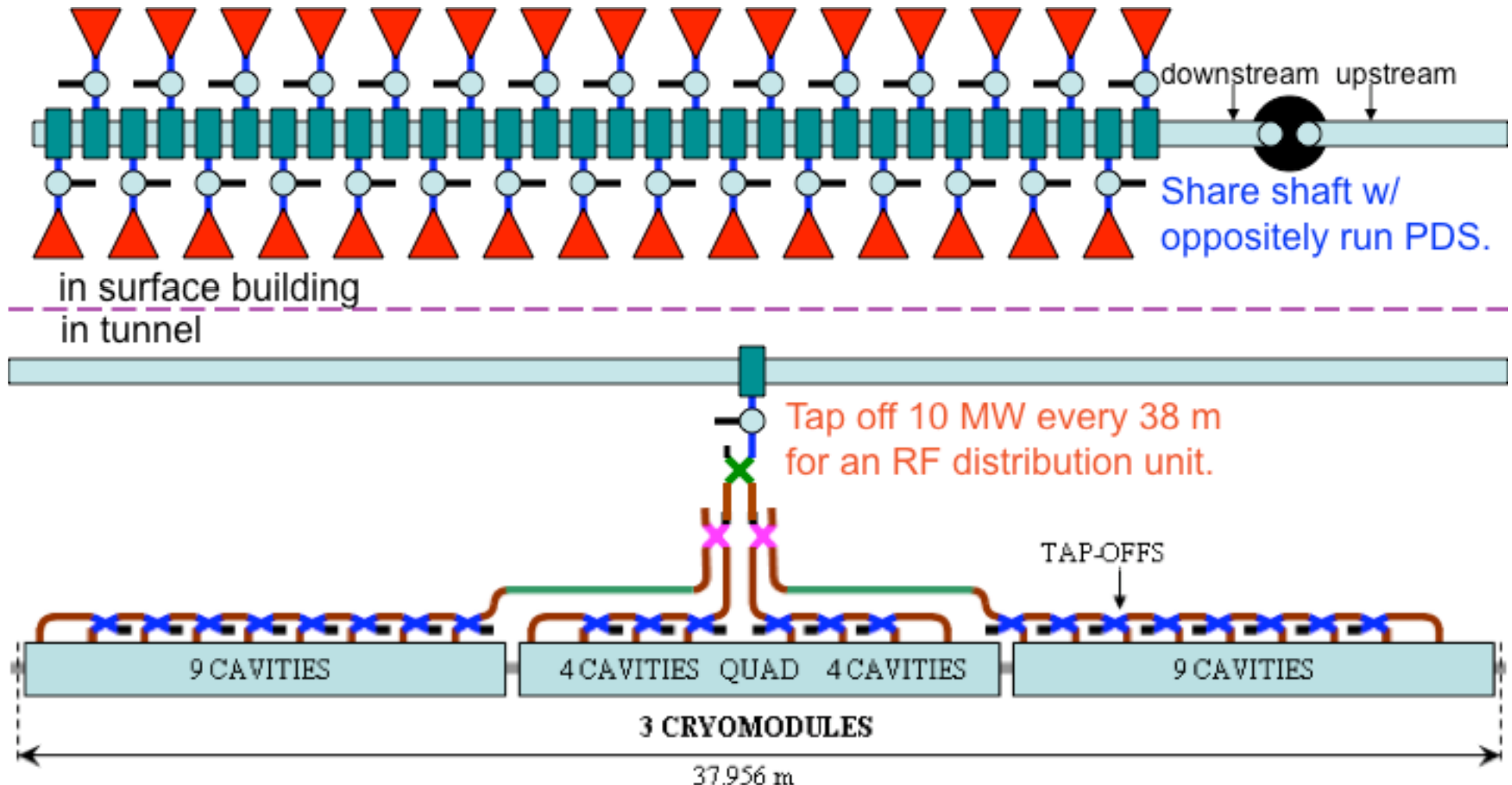
- **Presented modified Americas sample site to EC Friday Sept 5**
 - Move HLRF to surface in clusters of 30+ klystrons. Single RF waveguide ~2.5km long to feed RF power to ~100 CMs
 - Eliminates service tunnel for main linac
 - Majority of thermal load moved to surface
- **Technical challenges exist → but anticipated changes justify the investment**
 - HLRF Technical group now planning R&D
- **Goal: (from Dubna)**
 - *define technical systems that allow enough flexibility to promote siting proposals from all regions*



RF clustering: proposed layout

(Nantissa / Adolphsen)

Combine 300 MW from thirty 10 MW klystrons into one circular TE_{01} -mode evacuated waveguide on the surface.



With extra transmission loss, feeds ~27 RF units = 1.026 km. (shaft serves 2.052 km)



HLRF – Next step for CFS:

- **For Chicago GDE meeting:**
 - Initial consideration of remaining RDR sites complete
 - Definition of technical R&D – as needed to smooth differences
 - (e.g. Asian sample site access tunnels)
 - Summary presentation → the removal of the linac support tunnel: what is impact?



Minimum Machine

- **A practical approach to value engineering**
 - Leaders: Nick Walker and Ewan Paterson
 - Goal: Complete definitive studies of 5 significant cost reduction options in order to support the baseline update decision process January 2010
 - Team: Group Leaders (relatively little involvement from SCRF CM / cavity groups)
 - Note: it is important to consider developing community consensus in support of proposed changes
- **Studies to be defined at Chicago GDE meeting, November 2008**
- **Definition document**
 - will become part of the R&D plan (rev 3 due 12.2008)
- **Weblog for Minimum Machine:**
 - http://www.linearcollider.org/weblog/accelerator_design/



CFS activities for MM

- **Top theme of Minimum Machine:**
 - ‘reduced underground construction will save construction cost’
- **CFS team participation to validate above assumption**
 - vital impact
- **When, How, Who, & how to pay for it?**
 - Strong effort (AS) in all regions:
 - US – SLAC (BDS, Linac, Integration), Fermilab (RTML, CFS)
 - EU – UK / Cockroft team (DR, e+, system engineering)
 - Asia – KEK (Beam Dynamics, CFS)



MM – resources

- **US / DoE:**
 - CFS VE / cost reduction efforts strongly supported
 - Fermilab CFS team
 - SLAC BDS / MDI team
- **EU:**
 - FP7 Higrade
 - UK e+ / DR
 - engineering effort underway at Cockroft
- **Asia**
 - possible company involvement: 'Frontier Accelerator Research Forum'
 - KEK DG to provide funding?



MM – schedule and mechanics

- **discuss activities at parallel / joint sessions at Chicago GDE**
 - assessment of needed resources
- **definition document Chicago GDE**
- **(Ewan can use help ~ now)**

- **work through Technical Groups**
 - focal point at 4 week/monthly webex (AS, CFS,...)
 - and at group meetings (BDS, DR etc)



Plug Compatibility

- **We will start to prepare our ‘acquisition model’ for high-tech components for review by the funding agency groups**
 - limited resources; but funding agencies should be made aware of our thinking
 - their ‘concurrence’ and fore-knowledge is vital
 - this is to be implemented through FALC
- **Key item for AAP review**



EC meeting – Sept 4-6, 2008, KEK

- **focus on the above 3 items, and the connection between the implementation plan and plug-compatibility**
- **Strong support; generally**

- **Discussions of R&D status**
 - S0, S2, Cesr TA etc.
 - Excellent presentations on the KEK – based work



Global Systems – Controls

- **Margaret Votava has asked to step away from this responsibility**
 - this is unfortunate; thanks to Margaret
 - Fermilab involvement in controls is greatly reduced in 2008, and not expected to be fully revived in 2009
 - focus is on LLRF ‘TTF 9 mA test’
- **Fermilab global systems – controls participation will resume when funding / activities reach threshold level**
- **We have two specific items listed (R&D Plan):**
 - LLRF – TTF
 - High availability



Other

- **Monthly webex meetings now on Indico**
 - <http://ilcagenda.linearcollider.org/categoryDisplay.py?categId=161>
- **Next meeting: October 8th**



PM Schedule – through 02/2009

- JLab Sept 11 and 12 (Akira, Marc)
- JINR / GSPI Telecon Sept 17
- CLIC / ILC Telecon Sept 19
- SLAC Sept 26 (Marc)
- RUPAC – Wilhelm B. Sept 29-Oct 03
- Linac08 (Victoria-will meet with JINR team), CCAST / ATF2 (Daegu) Sept 29-Oct 3
- FALC – Ottawa Oct 8 (Marc)
- CLIC / PAC / TTC Oct 14 – Oct 23
- BARC Oct 24 (Akira, Marc)
- Positron workshop Oct 29-31 (Nick, Marc)
- LCWS/ILC08 Nov 16-20; Project X Nov 21 22
- DESY XFEL technical and CF early December 1-5 (Nick, Marc)
- KEK ATF project and BDS December 15-18 (Akira, Marc)
- China December 9 – 10 (Akira, Marc)
- INFN / Spain / FALC – Jan 15-20 2009