



SB2009 Report & Action Items



DESY AD&I Meeting Summary Report



**Summary report of the first meeting
on Accelerator Design & Integration
28-29th May, DESY**

5th June, 2009

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ILC-EDMS ID: D*879845

- Comprehensive summary report
- Table of SB2009 Working Assumptions
- List of Action Items for ALCPG

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Attendance (AD&I Group)

Chris	Adolphsen	SLAC	Vic	Kuchler	FNAL
Deepa	Angal-Kalinin	CI	Frank	Lehner	DESY
Ian	Bailey	CI	Lutz	Lilje	DESY
Barry	Barish	GDE	Collomb	Norbert	CI
Wilhelm	Bialowons	DESY	Tsunehiko	Omori	KEK
Axel	Brachmann	SLAC	John	Osborne	CERN
Karsten	Buesser*	DESY	Ewan	Paterson	SLAC
Phil	Burrows*	JAI/OXU	Marc	Ross	FNAL
John	Carwardine	ANL	Tetsuo	Shidara	KEK
Eckhard	Elsen	DESY	Nikolay	Solyak	FNAL
Atsushi	Enomoto	KEK	Junji	Urakawa	KEK
Shigeki	Fukuda	KEK	Nicholas	Walker	DESY
Peter	Garbincius	FNAL	Barbara	Warmbein	DESY
Susanna	Guiducci	INFN	Hans	Weise	DESY
Hitoshi	Hayano	KEK	Akira	Yamamoto	KEK
Jim	Kerby	FNAL	Kaoru	Yokoya	KEK
WebEx:					
Rongli	Geng	JLab	Tom	Lackowski	FNAL
Orville	Ginsburg	FNAL			



Accelerator System Action Items

Area	item	Action Item	Lead responsibility
General	0	Prepare spreadsheets (WBS-like) with approximate modified components counts and CFS requirements for cost evaluation (see #3 and #4)	All TAG leaders
E source	11	Evaluate integration in central region tunnel (incl. spin rotation issue)	Brachmann, Paterson
	12	Consider options for independent source housing / DR integration	Brachmann, Paterson
P source	13	Explore parameter options for end-of-linac operation (as a function of energy) for the following scenarios: yield of 2 at 250GeV; yield of 1.5 at 150 GeV; QWT and Flux Concentrator and/or Li lens options.	Clarke
	14	Produce comprehensive target shielding curves (rate vs concrete shielding thickness) for above schemes	Clarke
	15	Supply envelope dimensions ("box") for target and capture station	Clarke
	16	Compile review of existing beam dynamics simulations (emittance preservation)	Clarke
	17	Compile available documentation on target engineering solution	Clarke
	18	300 Hz source - prepare exact comparison charts for planned R&D tests	Omori, Urakawa
	19	300 Hz source - Identify scope and resources required for integrated design work	Clarke, Omori



Accelerator System Action Items

DR	20	For 3.2km ring, what are the estimated limits on bunch charge and number?	Guiducci
RTML	21	Review and re-evaluate stray-field tolerances in long return line	Solyak
	22	Review and re-evaluate phase and amplitude stability requirements for single stage compressor	Solyak
BDS/MDI	23	Supply presented lattice with TME dogleg to Walker for CAD3D integration (see slide 6 in BDS/MDI presentation)	Angal-Kalinin
	24	Attempt to quantify scaling for L^* on FF length, impact on collimation etc.	Seryi
CRI	25	Proposal for overall lattice geometry solution including IR asymmetry	Paterson, Walker
Management	26	Form availability task force and define plans/studies	PMs
	27	Top-down re-evaluation and update of RDR risk register	PMs, Paterson



Interaction with CFS #1

- Primary motivation for SB2009 concepts is impact on SCF
 - **Simplification, cost-performance optimisation**

- Points of Contact for CFS work (re-)established
 - **Electron Source**
 - Axel Brachmann & John Sheppard - Tom Lackowski (supported by M+W Zander)
 - **Positron Source**
 - Jim Clarke - John Osborne
 - **Damping Ring**
 - Susanna Guiducci - Tom Lackowski
 - **Ring to Main Linac**
 - Nikolay Solyak - Vic Kuchler (supported by M+W Zander)
 - **Main Linac**
 - Chris Adolphsen (Klystron Cluster) - Tom Lackowski
 - Shigeki Fukuda (DRFS) - Atsushi Enomoto
 - **Beam Delivery System**
 - Andrei Seryi - John Osborne

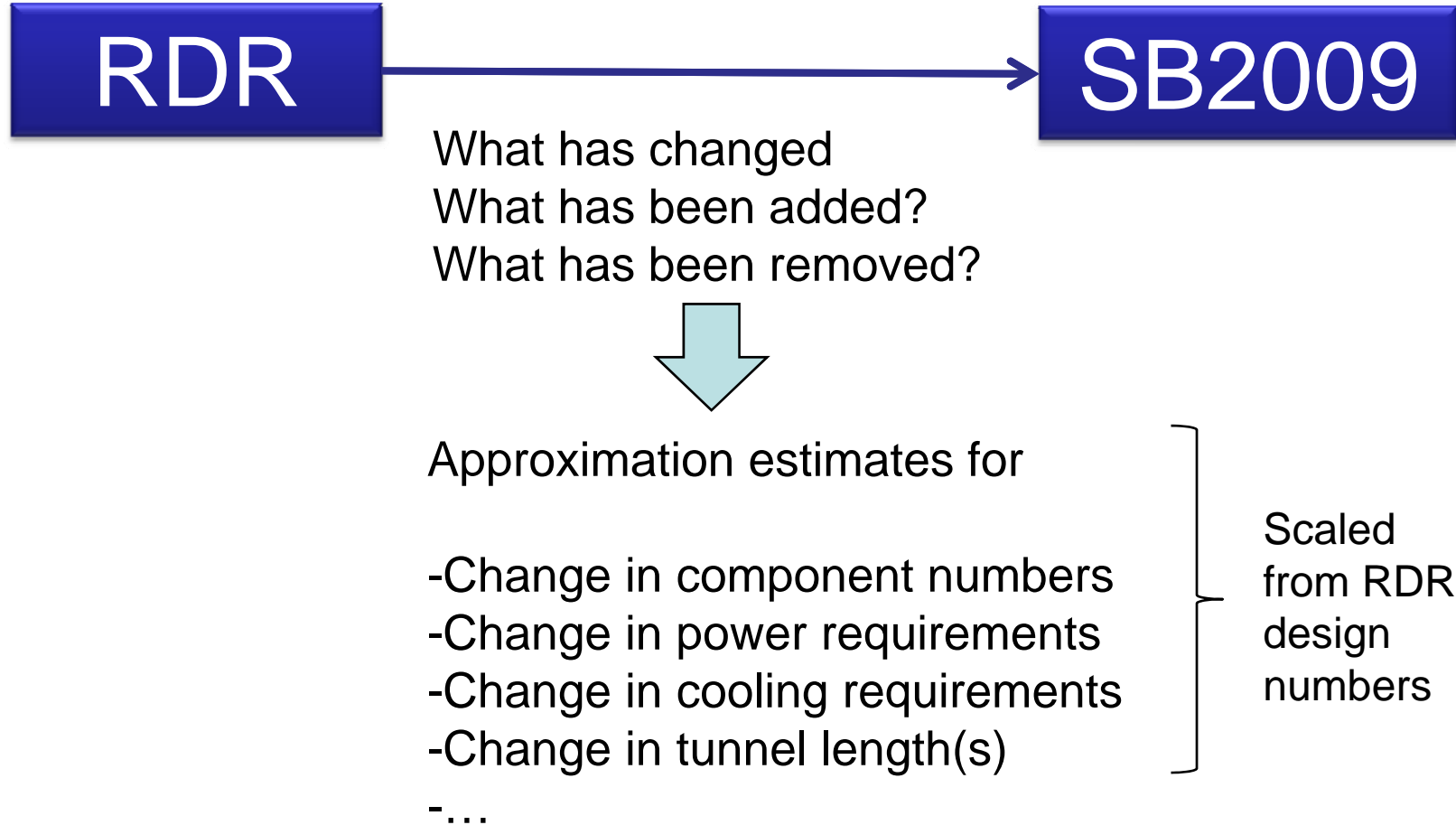


Interaction with CFS #2

- Series of WebEx meetings for CFS 'requirements' reviews
 - June 2 CFS Internal Review of AD&I Meeting ✓
 - June 9 CFS and Damping Ring w/S. Guiducci ✓
 - June 30 CFS and Electron Source w/ A. Brachmann
 - July 7 CFS and Positron Source w/J. Clarke and N. Collomb
 - July 14 CFS and RTML w/N. Solyak
- Special face-to-face meeting for Central Region Integration
 - **SLAC, end of July (E. Paterson)**



Interaction with CFS #3





Other Issues

- Availability
 - Strong driving arguments for RDR solution(s)
 - Fresh look required (new people?)
 - Task force to be formally formed ASAP
 - Look at established solutions (LHC, XFEL,...)
- Risk Register
 - Important tool to understand ‘status’ of R&D
 - PM action item to review
 - Top down view needed to balance individual risk assessments
 - **Must include project cost impact**



Time Scales

- 28-29 May DESY meeting
- June/July CFS requirements review meetings (WebEx)
- X July CRI Meeting (SLAC)

- 29.09-03.10 ALCPG (Albuquerque)
- End Nov. 2nd AD&I meeting (TBD)
- Dec. Proposal Report to EC/AAP
- 4-6.01.10 2nd AAP review



ALCPG (AD&I goals)

- Finalise top-level details of SB2009
 - **Cost increments**
 - **Parameters, sketches, approx. component counts**
 - **Risk register & RDR comparison tables**
- Begin preparation for Proposal Report
 - **Outline**
 - **Content**
 - **Writing assignments**



ALCPG09 GDE Strawman agenda

	Tuesday	Wednesday	Thursday	Friday	Saturday
8.30 - 10.00	Joint Plenary	GDE Plenary Accelerator Design & Integration	WG's parallel Peter G - sources	WG's parallel Peter G - Main Linac	GDE Plenary WG summaries
10.00 - 10.30	Break	Break	Break	Break	Break
10.30 - 12.00	Joint Plenary	WG's parallel	WG's parallel EC Gov & PIP	WG's parallel EC Gov & PIP	Joint Plenary GDE summary LCWS summary
12.00 - 13.30	EC lunch	EC lunch	EC lunch	EC lunch	
13.30 - 15.00	GDE plenary CLIC, SRF, XFEL etc... Special Det. Session - machine parameters	WG's parallel Peter G - damping ring	WG's parallel Peter G - BDS	WG's parallel Peter G - CFS	
15.30 - 16.00	Break	Break	Break	Break	
16.00 - 17.30	GDE Plenary PM's & TAGL's goals, organisation etc ...	WG's parallel Panel discussion	WG's parallel	GDE Plenary Accelerator Design & Integration	

WG's: Sources, BDS, Damping Rings, Main Linac, CFS, Beam Dynamics (?)