



Work Package Summaries

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October 22, 2008



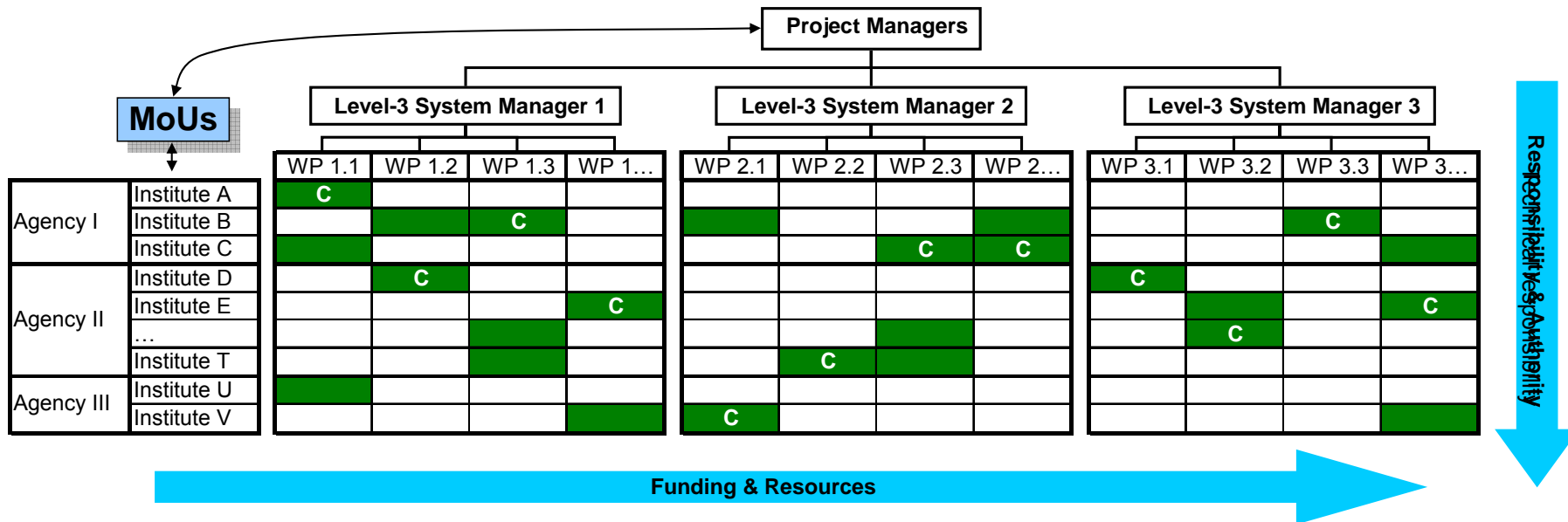
Rationale for collecting Work Packages

- Begin describing activities across all regions in a unified way
 - Initially, can only reflect (maybe reframe) existing activities.
- Create a high-level global picture to be submitted to FALC Resources Board by the end of November
- Build a mechanism for allocating work packages.
- Challenges
 - Balancing ‘project management’ tasks and technical activities.
 - Showing a global program.
 - Capture key activities focused on XFEL, STF, ILCTA, etc



Work Package Matrix

(from RDR Chapter 7)



- Green indicates a commitment:
 - institute will deliver
- MoUs facilitate connection:
 - Project Management (authority and responsibility) and institutions (funding and resources).
- The 'C' → coordinating role in a WP
 - Each WP has one coordinator.



WP Summary template...

Part I: Work Package Definition

Work Package categorization																					
Technical Area (EDR Org Chart Level 2)	Choose one: <input type="checkbox"/> SCRF Linac Technology <input type="checkbox"/> CFS & Global Accelerator Systems																				
Technical Group (EDR Org Chart Level 3)	Choose one: <table border="0"><tr><td><input type="checkbox"/> Cavity Processing</td><td rowspan="6">}</td><td rowspan="6">SCRF Linac Technology</td></tr><tr><td><input type="checkbox"/> Cavity Production & Integration</td></tr><tr><td><input type="checkbox"/> Cryomodule</td></tr><tr><td><input type="checkbox"/> HLRF</td></tr><tr><td><input type="checkbox"/> Cryogenics</td></tr><tr><td><input type="checkbox"/> Main Linac Integration</td></tr><tr><td><input type="checkbox"/> Civil Engineering</td><td rowspan="3">}</td><td rowspan="3">CFS & Global</td></tr><tr><td><input type="checkbox"/> Conventional Facilities</td></tr><tr><td><input type="checkbox"/> Controls</td></tr><tr><td><input type="checkbox"/> Electron Source</td><td rowspan="5">}</td><td rowspan="5">Accelerator Systems</td></tr><tr><td><input type="checkbox"/> Positron Source</td></tr><tr><td><input type="checkbox"/> Damping Ring</td></tr><tr><td><input type="checkbox"/> RTML</td></tr><tr><td><input type="checkbox"/> BDS Simulation</td></tr></table>	<input type="checkbox"/> Cavity Processing	}	SCRF Linac Technology	<input type="checkbox"/> Cavity Production & Integration	<input type="checkbox"/> Cryomodule	<input type="checkbox"/> HLRF	<input type="checkbox"/> Cryogenics	<input type="checkbox"/> Main Linac Integration	<input type="checkbox"/> Civil Engineering	}	CFS & Global	<input type="checkbox"/> Conventional Facilities	<input type="checkbox"/> Controls	<input type="checkbox"/> Electron Source	}	Accelerator Systems	<input type="checkbox"/> Positron Source	<input type="checkbox"/> Damping Ring	<input type="checkbox"/> RTML	<input type="checkbox"/> BDS Simulation
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Technical Group Work Package Number	WPs within a specific Technical Group should be numbered 1,2,3,4É. A full WBS number will eventually be allocated by the PMO.																				



WP Summary template... (2)

<p>Categories (up to 3 keywords)</p>	<p>A <i>Category keyword</i> (up to 3) is used to designate the <i>type</i> of work package. A standard set is provided as follows:</p> <table border="0"> <tr> <td>ENGINEERING DESIGN</td> <td><i>WP for engineering design (component, system etc.)</i></td> </tr> <tr> <td>R&D</td> <td><i>WP is for R&D work</i></td> </tr> <tr> <td>VALUE ENGINEERING</td> <td><i>WP specifically related to VALUE engineering</i></td> </tr> <tr> <td>COSTING</td> <td><i>Primary deliverable is a cost estimate</i></td> </tr> <tr> <td>PROTOTYPING</td> <td><i>Primary deliverable is a physical prototype</i></td> </tr> <tr> <td>BEAM DYNAMICS SIMULATION</td> <td><i>WP for simulation and/or beam dynamics calculations</i></td> </tr> <tr> <td>ACCELERATOR PHYSICS DESIGN</td> <td><i>WP for conceptual design, e.g. optics/lattice design.</i></td> </tr> <tr> <td>DFM</td> <td><i>WP associated with design for manufacture</i></td> </tr> <tr> <td>INDUSTRIALISATION</td> <td><i>WP related to industrialization or mass-production</i></td> </tr> <tr> <td>TEST FACILITY</td> <td><i>WP related to a test facility</i></td> </tr> <tr> <td>INTEGRATION</td> <td><i>WP is primarily an integration activity</i></td> </tr> <tr> <td>MANAGEMENT</td> <td><i>WP is primarily a management or coordination activity</i></td> </tr> </table> <p>You may create your own keywords if you feel none of the above are suitable. The PMO will eventually produce a rationalized and consistent set of keywords across all Work Packages, once all the information is available and catalogued.</p>	ENGINEERING DESIGN	<i>WP for engineering design (component, system etc.)</i>	R&D	<i>WP is for R&D work</i>	VALUE ENGINEERING	<i>WP specifically related to VALUE engineering</i>	COSTING	<i>Primary deliverable is a cost estimate</i>	PROTOTYPING	<i>Primary deliverable is a physical prototype</i>	BEAM DYNAMICS SIMULATION	<i>WP for simulation and/or beam dynamics calculations</i>	ACCELERATOR PHYSICS DESIGN	<i>WP for conceptual design, e.g. optics/lattice design.</i>	DFM	<i>WP associated with design for manufacture</i>	INDUSTRIALISATION	<i>WP related to industrialization or mass-production</i>	TEST FACILITY	<i>WP related to a test facility</i>	INTEGRATION	<i>WP is primarily an integration activity</i>	MANAGEMENT	<i>WP is primarily a management or coordination activity</i>
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<p>BCD, ACD, BOTH, or UNDEFINED</p>	<p>Identifies the focus of the Work Package with respect to the current baseline configuration (as of submission). <i>Choose one keyword from the list on the left.</i> UNDEFINED is for work where no well-defined baseline choice currently exists.</p>																								
<p>Time frame for major deliverables</p>	<p>Choose one of the following:</p> <table border="0"> <tr> <td>EDR</td> <td>will be completed within the EDR time frame (mid 2010)</td> </tr> <tr> <td>BEYOND EDR</td> <td>extends beyond the EDR time frame</td> </tr> </table>	EDR	will be completed within the EDR time frame (mid 2010)	BEYOND EDR	extends beyond the EDR time frame																				
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WP Summary template... (3)

Primary Target (one keyword)	<p>Choose one of the following targets, indicating the primary focus of the work described:</p> <p>ILC SPECIFIC <i>WP is entirely focused on ILC engineering, and is not related to any other facility listed below.</i></p> <p>XFEL FLASH ILCTA STF ATF ATF2 CESR-TA LBTA OTHER _____</p>
Local WP dependencies	Example: <i>Uses output from WP 4</i>

Work Package Details		
Work Package Title	A full text title which reflects the nature of the Work Package	
Short keyword title	<i>(For PMO use)</i>	
Abstract	A short paragraph summarizing the activities of the Work Package	
Major tasks and objectives	A list of the tasks and/or objectives that make up the activities described by the Work Package	
Deliverables from Work Package	Deliverable 1 Deliverable 2 É	
Major Milestones (including key decision points)	Milestone 1 Milestone 2 É	Due date 1 Due date 2 É.
Resources required (eg expertise, facilities, leader, É)	Resource 1 Resource 2 É	Comment 1 Comment 2 É



WP Summary template... (4)

Ongoing or newly funded participation <i>(List all know institutes who are currently participating in this work)</i>					
	Institution	Funding Source	Duration (begin/end)	Level of effort FTE / M&S	
Coordinating Institution	If there is a current known coordinating institute, add the details in this row.	Funding agency and/or program name. If there is more than one funding source, list them all on separate lines within the cell.	The start and end of the current funding.	Estimate of the level of effort in FTE per year.	Estimate of the M&S level (specify unit)
Collaborating Institutions					

Expressions of Interest (offered or submitted)						
Institution	Funding available?	Funding Source	Duration (begin/end)	Level of effort FTE / M&S		Comments (e.g. proposed coordinating role)
	YES / NO	list all identified funding sources, either existing or proposed (see above for details)	as above	as above		add here any relevant comments



Have made a good start...

- More than 170 WP summaries or titles received so far.
- Observations
 - Different groups took different approaches: scope, scale,...
 - Scope of sum of all work packages differs for each group
 - Superficially, Work Packages cover mostly R&D and design
 - (Was to be expected - we got what we asked for)
- Now we must iterate...
 - To assure visibility to key EDR activities & priorities.
 - To give some consistency, especially in accelerator areas.



“Generic’ activities to be covered by Groups

- Demonstrate required technical performance (eg S0 program)
 - (Already the main focus of the work packages)
- Review, integrate, and formalize...
 - Accelerator specifications and engineering requirements.
 - Treaty points and inter-group dependencies
 - EDR baseline (RDR + new approved changes)
 - These will be due by the Sendai GDE meeting (March 08)
- Develop plug compatibility standards for EDR and beyond.
- Develop approaches to each BCD/ACD down-select decision.
- Perform integrated cost optimization (to reduce overall cost)
 - Accelerator design, SCRF, civil, cooling, electrical,...
 - Each group must establish a collaborative WP with CFS.



A few comments

- After March 08, there will be an increase in impedance to making changes to the baseline that are not part of cost optimization.
- We must 'freeze' primary requirements & design concepts early enough to allow engineering to proceed.
- We need to fully understand which requirements from each accelerator area have the biggest leverage on subsystem cost.
- We do not have the resources to examine all possible cost optimizations or to do a comprehensive value engineering.



Calls for Expressions of Interest (EOI)

- November deliverable for FALC Resources Group requires we have already received international Expressions of Interest
 - Several Technical GLs have already issued Calls for EOI.
- **Schedule**
 - Mon, Oct 29: All Work Package summaries due to PMO.
 - Mon, Oct 29: Groups that have not already issued Calls for EOI: Technical GLs to send Call-for-EOI packages to Maxine.
 - Wed, Oct 31: PMO to send out Calls-for-EOI packages.
 - Mon, Nov 19: EOIs due to PMO and Technical GLs.
 - Fri, Nov 23: Based on EOIs and available/funded resources, all Technical GLs submit recommended WP allocations to PMO.
- Note: a webpage will be set up on linearcollider.org to show all existing and previous Calls for EOI.



Tasks for this week...

- *Goal is to assemble a first draft of the WP matrix that will be shown during the GDE closing plenary.*
- Associate PMs will meet with the Technical GLs Tues-Wed to discuss work package content and 'generic' coverage (need to make a schedule)
 - APMs: Frank Lehner, Tetsuo Shidara, John Carwardine.

By Thursday noon, Technical GLs are requested to...

1. Make a specific work package to cover the generic items:
 - Either: showing links to tasks already covered in other WPs.
 - And/or: covering the scope of any tasks not identified elsewhere.
2. Complete resource & institution tables in the WP summaries as best they are known.