



Accelerator System Kick-off Meetings

- WHAT is it exactly we wish to achieve?
- HOW do we exactly intend to do it?



The WHAT: Charge for Meetings

- The EDR, to be completed in 2010, will contain an updated ILC value estimate and a project execution plan. Prioritization of Engineering Design Activities to be done in support of the EDR will be based on risk mitigation, cost reduction and project preparation. The EDR will be based on an assessment of the RDR technical content and its value estimate.
- We believe that the RDR value estimate has sufficient detail to
 - **Permit trend analysis for the cost reduction/optimization and**
 - **Give guidance for the R&D and industrialisation that must accompany the engineering design process of the EDR.**
- The primary focus of the EDR kick-off meeting is to consider the planned EDR design and industrialisation effort.



The WHAT: Charge for Meetings

- Accelerator Systems specific:
 1. **Assess the technical maturity of the RDR design and the completeness of the value estimate**
 2. **Evaluate plans for the EDR design work including development and incorporation of items presently outside the baseline**
 3. **Examine proposed Work Packages and comment on how they support the EDR goals.**



“Plain English” Goal #1

- Review the design
 - **Does it work? (better: *is the performance acceptable*)**
 - **Are there still concerns on performance?**
 - (this will touch of risk assessment and R&D plans)
- Review the cost estimate
 - **Examine each element in Cost Engineers Value Matrix (Tech./Global Group versus Area System)**
 - Check for inconsistencies (numerology, unit prices)
 - Identify cost items that are ‘questionable’
 - Cost metrics from existing machines
- Quantify the “Engineering Value” (= worth/cost)
 - **Identify CFS drivers (requirements)**
 - **Attempt to evaluate performance/cost derivatives**
 - **Critically review each design decision wrt to its cost impact (derivative)**
- *Are the cost increments / performance gains justified*

Global Design Effort



“Plain English” Goal #2

- Make a plan for the next three years that includes the known ‘alternative designs’
 - **Clearly define achievable (realistic) scope**
 - **Identify resources problems (many!)**
 - **Identify ACD issues**
 - Why do we have them? (lower cost? Better performance?)
 - What needs to be done to see if they are truly beneficial (selection criteria)



“Plain English” Goal #3

- Work package definitions.
 - This links up with goal #2 via planning.
 - Developing a WBS (rows in a Gantt chart) should yield Work Packages
- Develop (for example: BDS,DR) lists
 - Into a structured plan or WBS
 - Need to massage these into the correct structure to deliver our goals for the EDR
 - In addition, complexity of WPs must reflect available resources.
- These meetings can only be the start of this activity
 - An additional iteration will likely be required once key well-defined milestones/deliverables are identified.



Top-Level Goals from Draft EDR Plan Document

- Define and clearly document performance-driven specifications for the accelerator components and – more critically – CF/S;
- Iterate with the relevant engineering groups to understand the cost/performance trade-offs – again CF/S will be a focus;
- Demonstrate that the accelerator design fulfills the required performance goals (in a cost-effective way);
 - **by demonstration via critical R&D;**
 - **by simulation;**
- Maintain design-related risk register, and develop alternative fall-back (risk-mitigating) solutions.



The How

- Goal 1 will require
 - **Accelerator expertise**
 - **Cost experts (preferable experienced machine builders)**
- Who are the 'PM Team'?
 - **Preferably a core group should attend all the (AS) reviews**
 - Maintain consistency
 - Swap notes!
 - PM must be involved!!
 - **Additional experts as needed / identified**
- What are the 'deliverables' of these meetings?
 - **How do we document the results?**
 - **As a report? Who writes the report? How is it used?**
 - **Feedback from PM Team – how is this handled?**
 - **How quickly can such a document be produced if it is required**
- How will we summarize at the October ILC meeting?