



## TDR will have:

- **Description of the design, including siting**
- **Updates / choices made on the basis of R&D**
- **Cost estimate, including industrialization**
- **1 TeV upgrade**
- ***Explanation of EDMS repository***
  
- **Implementation Plan / Governance scheme**
  
- **Outline to be discussed ALCPG11**



# Cost estimate, including industrialization

- **(RDR 3.7.4): Cavities ~ 40% CM, in turn 30% of total → 12% of the total**
  - To be cross-checked; too high....
- **SB2009:**

TLCC (% of RDR)	KCS	DRFS
1 Single tunnel	2	1.5
2 Gradient spread	1.5	1.5
3 reduced beam	6	8.4
4 positron	0	0
<b>TOTAL TLCC</b>	<b>6.5</b>	<b>8.4</b>
Central Complex	1.6	1.6
<b>Oxford TOTAL</b>	<b>12.3</b>	<b>12.6</b>



# TDR Technical Baseline Reviews

- Dates and venues:**

Baseline Technical Reviews		
Area/Group	When	Where
DR	7-8 July, 2011	INFN
RTML	TBD (Oct 2011?)	Fermilab
BDS	27-28 Oct 2011	DESY
Sources	12-13 Dec 2011	ANL
SCRF/Main linac integration	Winter 2011/2012	KEK
CFS	Winter 2011/2012	Fermilab/CERN

?

- Physics and Detector to be represented**



# TDR Prep Review Meeting Goals:

- Review the **TDP R & D** and summarize progress and plans.
- Review the **system design**
  - including a **change control procedure** so that key design changes can be discussed openly
  - The updated baseline will be used for the TDR plan and cost estimate.
- Review the **system cost**
  - For SCRF and CFS, additional meetings, parallel sessions etc are also required.
- Review **system interface criteria**;
  - for example, requirements to CFS
- Review **supporting documents** for inclusion in the EDMS
- Discuss TDR preparation plans.
  - Upon the completion of the review, we should be able to publish a plan for producing that part of the TDR; resources, milestones, etc
- The review to be accessible to the community



# TDR Preparation Review Meeting Scheme

- **each meeting to include document discussion and sign-off**
  - drawings, specifications and spreadsheets with parameters and costs
  - relatively small, compared to BAW
  - each key participant can understand their immediate tasks and responsibilities.
- **the meeting to also include more general summary wrap-up talks, as needed.**



# TDR Preparation Review Meeting Scheme (2)

- meet with TAG's, group by group.
- 5 to 6 meetings in the next 12 to 15 months.
- start with the Accelerator Systems –
  - Source
  - DR
  - BDS
- **Work on the AS systems:**
  - scope is understood,
  - but there will be questions and changes
- remaining resources are directed toward completion of specific tests –
  - CesrTA, ATF2 and source technology development.



# Planning for the TDP 2

	2010	2011	2012
Risk Mitigating R&D	█	█	█
Re-Baseline (CC)	█	█	
AD&I (TLCC)	█	█	
AD&I (TBR*)		█	█
TeV upgrade study		█	█
Update VALUE estimate		█	█
Tech. Risk Assessment		█	█
PIP		█	█
Write TDR report(s)			█



! You are here!

\* Technical Baseline Reviews



# TDP Key Focus (beyond R&D)

### SCRF Cost

- mass production models
- global distribution

Highest Priority  
(new estimate)

### CFS design & cost

- Design update
- Value engineering

High Priority  
(updated estimate)

### Baseline Design

- Final design decisions
- Documentation
- Cost estimate

RDR update  
Documentation  
(scaled estimate)



CFS requirements  
critical input





# Technical Baseline Reviews

- **The next “thing” after TLCC**
- **Similar format to TLCC BAW but reduced scope**
  - next-level of design decisions
  - PM (not Director) driven
- **two-day focus workshops**
  - face-to-face for key (mandatory) participants, but
  - open meetings to all who wish to attend
  - Webex available
  - Written detailed summaries to be provided

Open and transparent process



# Schedule constraints and concerns:

- Each review should last two days
- Comprehensive costing for only SCRF and CFS TAG's
- SCRF industrialization study to be launched this month; expected ~ 1 year
- CFS contracts and HLRF (DRFS) costing work is expected to be ready in late 2011.
  
- Limit the total number of reviews to six, to take place between mid 2011 and early 2012.
- Try to achieve regional balance and etc



# TDR Preparation Review Meeting Scheme - participation

- **CFS representatives to participate in every one of the AS meetings.**
- **costing engineers also.**
- **(SCRF group leaders are not required to participate)**
- **Physics and Detector representatives required for MDI-related meetings; welcome at others**
- **SCRF and CFS meetings toward the end of 2011 or in early 2012**
  - consistent with our schedule
- **reasonable and necessary set of meetings.**
- **required to close-out the TDP.**



# Topics for System Design Review

- Review the TDP R & D and summarize progress and plans.
- Review the system design
  - including a change control procedure so that key design changes can be discussed openly

## Example topics:

1. Cavity pairing – Power Distribution System.
2. Marx modulator
3. RDR HLRF fallback
4. RTML RF design and civil design.
5. Tunnel diameters
6. Power dissipation in the tunnel
7. DRFS components
8. Optimization of Positron production parameters:
  1. undulator length and field;
  2. polarization collimator space