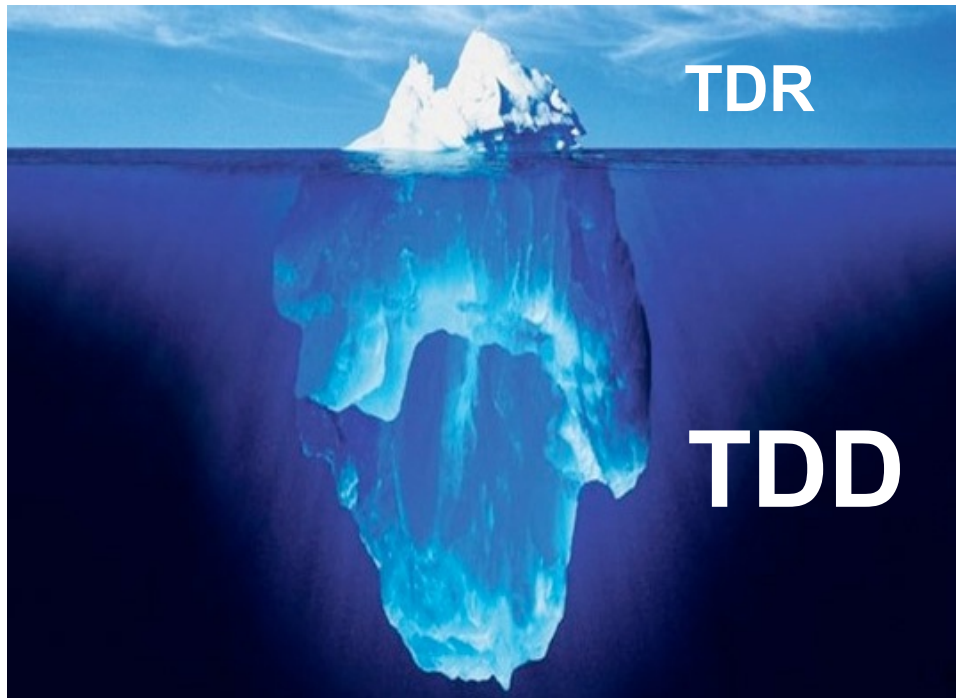


Benno List
DESY

39th AS TAG Webex meeting

5.10.2011



- TDD presents the Technical Design of the ILC in an organized fashion
- TDD is the foundation of what is described in the TDR
- Goals of TDP-2 and TDD+TDR:
 - Demonstrate how overall ILC design follows from basic requirements (parameters) and lattice design
 - Prove that Cost Estimate and CFS Design are **Correct, Complete, and Consistent** with accelerator design
→ provide **traceability** from basic machine parameters and lattices to final CFS design and Cost estimate
 - Demonstrate that ILC is ready to be built
- **Mandatory Documents** are required from the TAGs
- Production, Exchange and Reviewing of Documentation is integral **part** of the Design Process in TDP-2
- Power Point slides are a guide to the documentation, not a surrogate

- Mandatory Documents:
A set of documents that should be prepared for all Accelerator Systems
- Mandatory Documents reflect the (idealized) work flow on the Technical Documentation (and Design itself)
- List (see EDMS D*0959595):

Expected ahead of BTR!

1. WBS (Excel spreadsheet → Node structure in EDMS)
2. System layout (Word): ~2 page summary of system
3. Parameter Table (Excel): Parameters of the system, including special parts (targets etc) and all beamline
4. Beamline summary: Written overview + sketch of all beamlines, including Treaty Points and Markers
5. Lattice (xsif files): The lattice
6. Component lists (Excel): List of components (magnets, cavities, BPMs, PS) [partially] derived from lattice
7. Component Specifications (Excel): ~1 page specification of each component (magnet, cryomodules, power supplies, vacuum systems, dumps)
8. CFS Criteria (Excel): Summary of input data for CFS layout, plus detailed calculations of heat loads, power supply needs, cryo needs, ventilation, space (tunnel diameter, alcoves etc)
9. Cost information (Excel): Input data to cost effort

Provided by CFS / Cost People

- These Mandatory Documents are expected to be prepared **in advance** of the BTR
- Responsibility of the TAG Leader
- WBS, beamline summary and sketch: Support provided by DESY (B.L.)

| | PS | ES | BDS | RTML | DR |
|--------------------------|-------|----|-------|-------|-------|
| WBS | OK | | | | OK |
| System Overview | | | | | |
| Beamline Summary | OK | | | | |
| Beamline Sketch | OK | | | | |
| Parameter List | Parts | | | | Parts |
| Lattice | Parts | | Parts | | OK |
| Treaty Point Definitions | Parts | OK | | Parts | OK |
| CFS Criteria | Parts | | | | OK |

- Status of the Design Work and its Documentation is documented in the **Design Register D*0959505**
- TAG leaders (and lattice designers): check it!
- Design Register also contains references to EDMS documents, and remarks about open issues
- Design Register is a working document for Project Managers, but may be useful for you as well

- Top Level Parameter List: D*0925325
- Subsystem Parameter Lists depend on the top level list
 - if top level list has been updated, all subsystems have to update their parameters as well
- Changes to the top level parameter set have to be approved by the Project Managers, and are communicated via EDMS to all TAGs
- This makes sure that all subsystems are aware of any parameter changes
- TAG Leaders must acknowledge such notifications, and must act on it

- Beamline designs are documented by
 - **A parameter list (energy, emittance, aperture, timing...)**
 - **The lattice**
- The lattice is the foundation of more detailed documents describing:
 - **Magnets**
 - **Power supplies**
 - **Vacuum system**
 - **RF system**
- These documents are the basis for
 - **The CFS requirement documents**
 - **The cost documents**
- → This reflects a certain work flow: Lattice and parameters first, then documentation and tally of components, then CFS and Costing
- The status of this is summarized in the Design Register