



# ***ILC CFS BASELINE TECHNICAL REVIEW***

## ***CFS SUMMARY AND OPEN ISSUES***

### ***CONVENTIONAL FACILITIES AND SITING***

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## Overview

- **Current Status of Regional Design Efforts**
  - ▣ **Technical Design Documentation**
  - ▣ **Drawing Status**
  - ▣ **Cost Estimates**
- **Some Remaining Open Issues**

## Technical Design Documentation

- **Americas Region has Coordinated the Collection of the Area System TDR Baseline Criteria**
- **All Current Area System Criteria has been Assembled by Area System and Posted , Through B List, to EDMS and the TDD Webpage (Except RDR Style Main Linac)**
- **All Existing Supporting (Consultant) Reports have also been Posted**
- **Additional (or Revised) Supporting Documentation will be Posted as it is Received**

[Home](#) > [Global Design Effort](#) > [Technical Design Documentation](#) > Conventional Facilities & Siting

## Conventional Facilities and Siting (CFS)

- Naming conventions: [D\\*0967235](#)

### Design Criteria

- Laser Equipment Enclosures (draft Feb 14, 2012): [D\\*0974815](#)
- Dumps (draft Feb 14, 2012): [D\\*0974845](#)

### BAW Material

- List of Questions / Basis of Design (Oct 6, 2010): [D\\*0970485](#)
- Power load summary (Jan 13, 2011): [D\\*0971185](#)
- Heat load summary (Jan 13, 2011): [D\\*0971155](#)

### Site Studies

(access may be restricted)

- Hydrogeologic Study for the Siting and Design of the ILC near Fermilab: [D\\*0975005](#)

### Cost Information

(Access restricted to authorised persons only)

- Parsons: "ILC RDR Underground Unit Cost Analysis Geotechnical Design Basis": [D\\*0974965](#)
- ILC Tunnel Configuration Study: [D\\*0974935](#)
- Hughes: "ILC Methodologies for Estimating Underground Construction Costs": [D\\*0975915](#)
- Lemley: "Shaft and mass excavation proces developed for FNAL": [D\\*0975885](#)
- "Surface Grouting Cost Model": [D\\*0975965](#)

### Life Safety Studies

- Asian region: "Fire safety for ILC single tunnel": [D\\*0899575](#)
- Americas region: "Life safety / fire protection analysis for the ILC": [D\\*0899675](#)
- CLIC: "Compact Linear Collider: Guidelines on the reduction of fire hazards": [D\\*0899715](#)
- LHC: "LHC fire safety description": [D\\*0899755](#)
- XFEL: "Security and Workplace Safety Concepts for the Construction, Installation and Operation of the XFEL Research Facility": [D\\*0899615](#)

## Miscellaneous Reports

- Holabird&Root: "Fermilab ILC Programming Study" (KCS surface building design): [D\\*0975805](#)

### Electron Source CFS Criteria

- CFS Design Criteria, final TDR draft 2.3.2012: [D\\*0970195](#)

### Positron Source CFS Criteria

- CFS Design Criteria, final TDR draft 2.3.2012: [D\\*0970225](#)
- Heat load summary: [D\\*0943275](#)

### Damping Ring CFS Criteria

- CFS Design Criteria, final draft for TDR 28.2.2012: [D\\*0960625](#)

### Experimental Hall CFS Criteria

- CFS Design Criteria, final TDR draft 9.3.2012: [D\\*0979405](#)

### RTML CFS Criteria

- CFS Design Criteria, final TDR draft 14.3.2012: [D\\*0970275](#)

### Main Linac CFS Criteria

- Cryo Design Criteria for CFS, 7.3.2012, : [D\\*0970445](#)

### Klystron Cluster Scheme (KCS)

- KCS distribution schematic (draft Nov 10, 2011): [D\\*0970385](#)
- KCS CFS Design Criteria (final TDR draft Mar 1, 2012): [D\\*0970355](#)
- Process water plants (KCS, draft Jul 19, 2011): [D\\*0971245](#)
- KCS Power KW Load Distribution by Shaft (draft Jul 20, 2011): [D\\*0974885](#)

### Distributed RF Scheme (DRFS)

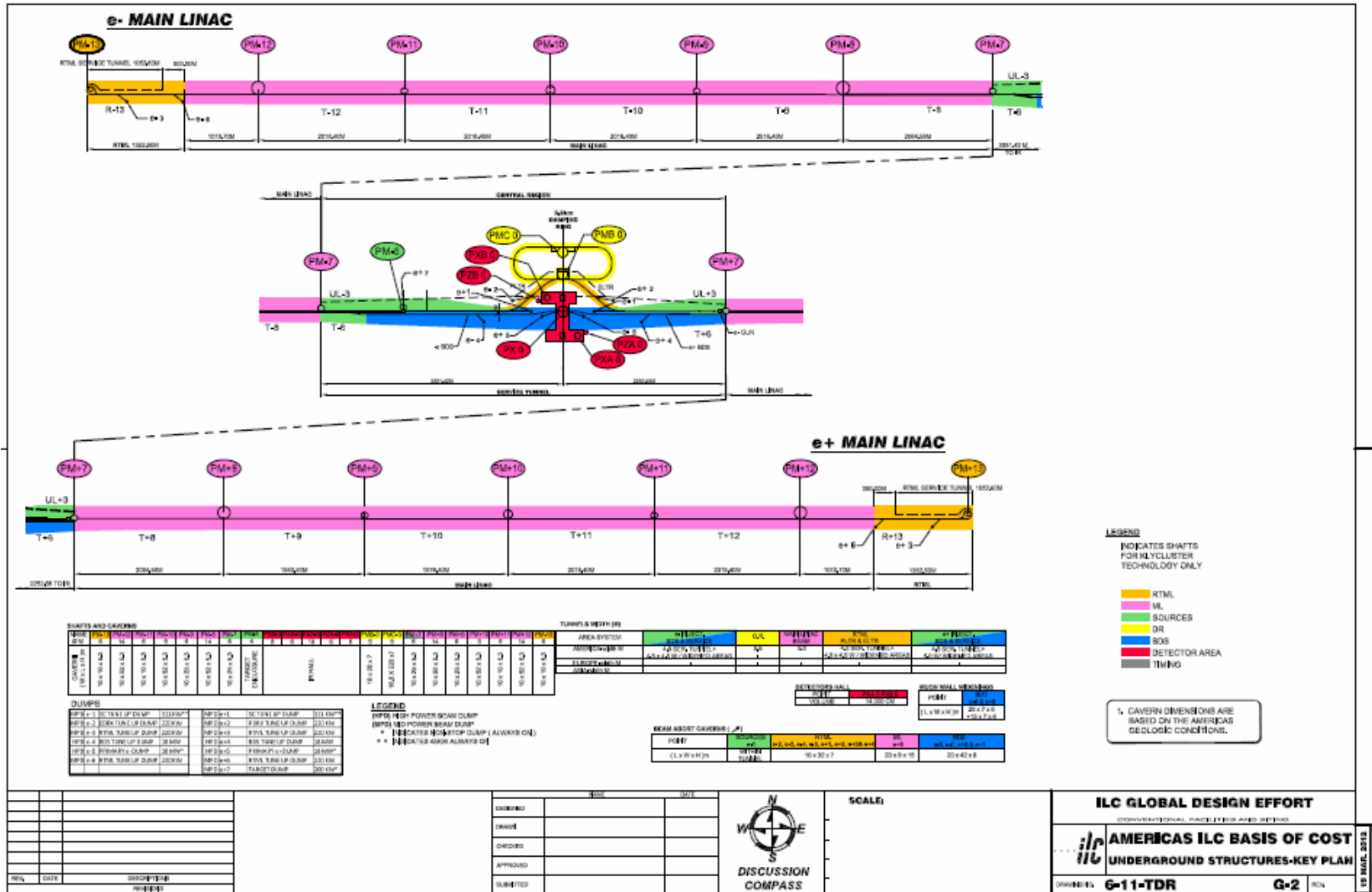
- DRFS CFS Design Criteria (draft Aug 16, 2011): [D\\*0970415](#)
- Process water plants (DRFS, draft Aug 18, 2011): [D\\*0971215](#)
- DRFS Power KW Load Distribution by Shaft (draft Aug 18, 2011): [D\\*0971605](#)

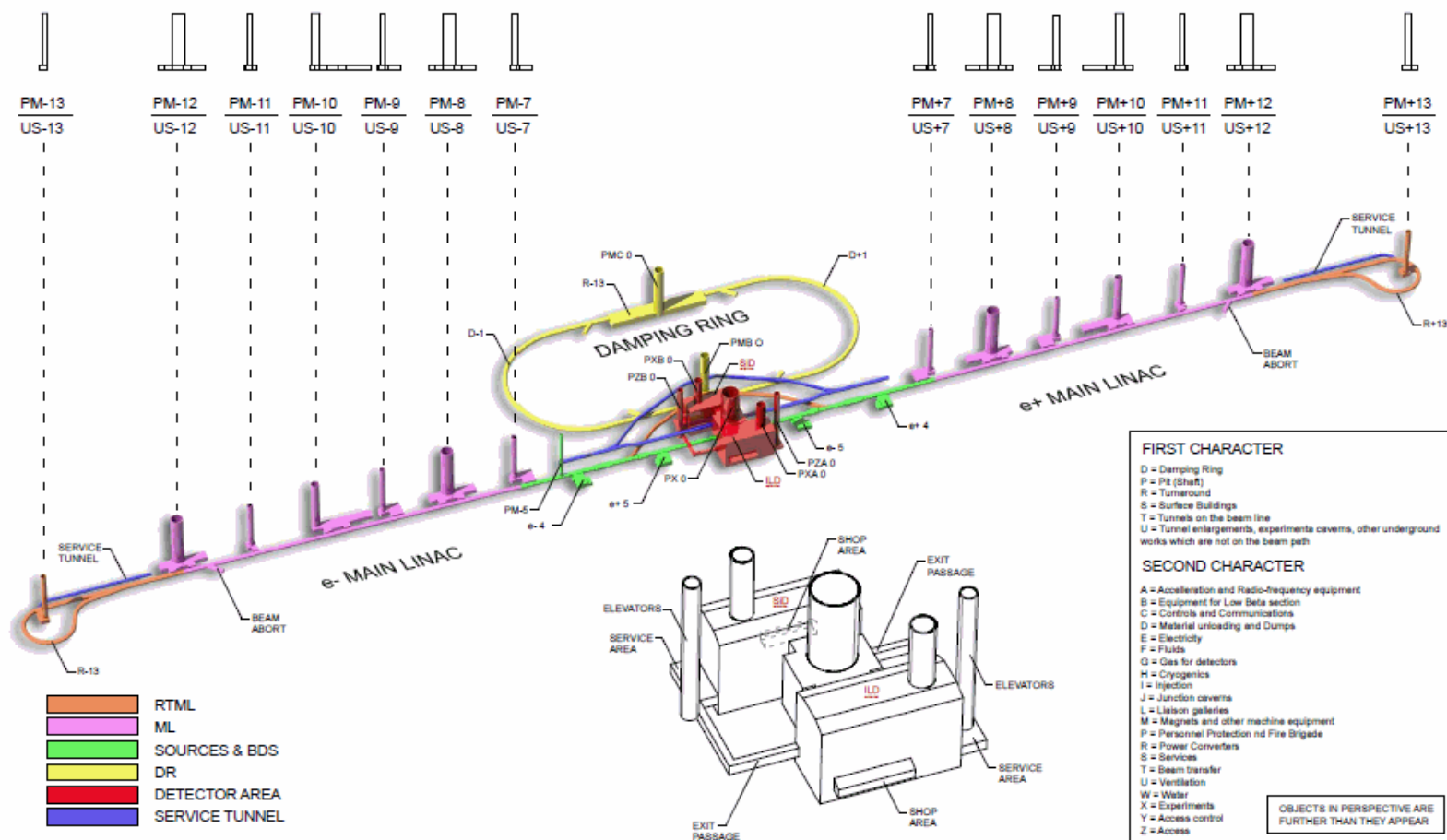
### BDS CFS Criteria

- CFS Design Criteria, final TDR draft 2.3.2012: [D\\*0970315](#)

## **Drawing Status**

- *The ILC Key Plan Layout has been Updated to Reflect Current TDR Criteria and has been Posted to the TDD*
- *An Isometric Drawing for the Americas Region Layout has been Completed and has been Posted to the TDD*
- *Last Remaining Lattice Information was Received on March 14, 2012*
- *A Complete Beamline Lattice Drawing has been Developed*
- *Americas Region 2-D Civil Underground Enclosure Drawing Set is Currently Being Developed*
- *Asian and European Regions will Use this Information to Develop Regionally Specific Drawings and Cost Estimates*
- *Asian Drawings will be Completed by KILC12*
- *European Drawings will be Completed by KILC12*





## Cost Estimate Status

- **Americas Region**

- ❑ ***Preliminary Cost w/Low Power Option Available April 3***
- ❑ ***Complete Draft Cost Estimate Available for KILC12***
- ❑ ***Complete Estimate w/Initial Review for Corrections and Omissions Available for May PAC Meeting***

- **Asian Region**

- ❑ ***Preliminary Cost w/ Low Power Option Available for KILC12***

- **European Region**

- ❑ ***Civil Cost Available for May PAC Meeting***

## Some Remaining Issues

- *Regional Cost Estimates will Reflect Site Specific Conditions and may Differ from the Relative Uniformity of the CFS RDR Regional Cost Estimates*
- *Some Time will be Required to Analyze Regional Cost and Develop an Understanding of Specific Reasons for Differences from the RDR Costs*
- *In All Regions, the Basis of Estimate Documentation will Require Some Formalization*
- *Although not Part of the CFS Cost Estimate, F Asiri and K Kershaw are Working Together to Use the CERN Experience to Update the RDR Installation Costs for the ILC TDR*
- *Costs for the Detector Platforms and Movement Systems will be Developed and Added to the CFS WBS*

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