

# Conventional Facilities and Siting Global Group (CFS)

Americas Region Update

V. Kuchler



#### **Overview**

- CFS Responsibilities for TDP I & II
- Current Status
- Funding Overview
- Considerations for TDR Content
- Implications for CFS Effort
- Summary



# Technical Design Phase I

- Identify Cost Drivers from RDR Estimate
- Identify Possible Alternative Design Solutions
- Analyze Alternatives Using the Value Engineering Process
- Select Alternatives and Roll-up into a Revised Baseline Design Solution



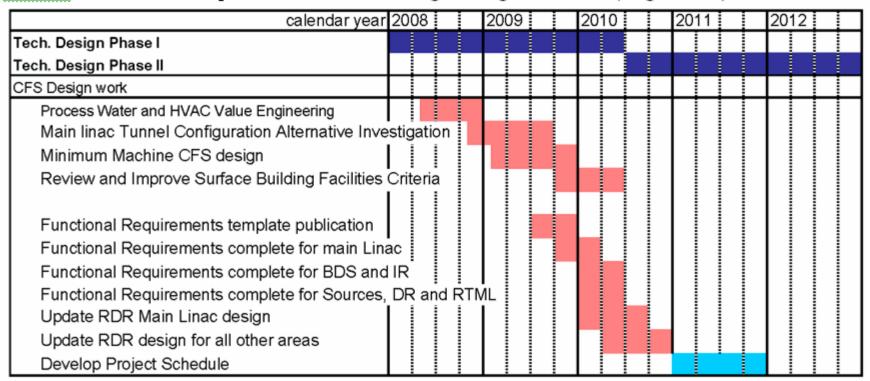
# Technical Design Phase II

- Review Criteria with Area and Technical Systems Based on Revised Baseline Design
- Finalize Baseline Design Solution with Adjusted Configuration and Criteria
- Develop a Cost Estimate for the Revised Baseline Design Solution
- Develop CFS Text for Inclusion into the Technical Design Report



#### **ILC CFS R&R Plan Milestones**

Table 4.1: Functional Requirements and Value Engineering Milestones (stages 1 & 2)





#### FY 09 CFS Status

- In General, Work Efforts Curtailed Due to Funding Reductions in FY 08 Were Renewed in FY 09 Even Under the Restrictions of the Initial Continuing Resolution (CR)
- CR Funding Levels Focused Effort Using In-House Salaried and Chargeback Engineering Resources
- Full FY 09 Budget Funding Does Allow Some Funding for Outside A/E Consulting Services in Addition to In-House Engineering Resources
- Influence of ARRA Funds at FNAL will Necessitate Additional Utilization of Outside A/E Services
- The ILC R&R Plan Details the CFS Responsibilities for the Technical Design Phase



# FY 09 CFS Progress to Date

- Specific CFS Milestones
  - Complete Water and HVAC VE Completed FY 09 Q2
  - Main Linac Tunnel Alternatives
    - In-House Efforts Began in Oct 09
    - Consultant Contract in Place Apr 09
    - Planned Completion FY 09 Q4
  - Minimum Machine CFS Conceptual Design
    - Consultant Contract in Place Apr 09
    - 3D Collaboration with CERN
    - Planned Completion Date FY 09 Q4
  - Review Surface Facility Criteria
    - Least Defined in Terms of Actual Criteria
    - Planned Completion Date FY 10 Q3
  - Conventional Electrical Distribution
    - Generally Scales with Power Requirements
    - RF Distribution Alternatives Could Influence Distribution Configuration and Costs
    - Planned Completion Date FY 10 Q3



## Funding Summary and Comments

- Current CFS FY 09 Funding \$1,081 K
- Projected CFS FY 10 Funding \$1,081 K (+10% ?)
- Funding Levels Indicated are Considered Adequate for the Tasks Outlined in the Current ILC R&D Plan
- The Current Transition to the Use of Outside A/E
   Consultants will be More Costly (and Time
   Consuming) Than Using In-House Engineering
   Effort
- The ILC R&D Plan is Reviewed and Updated by the Project Managers Every Six Months



#### Considerations for the TDR Content

- The TDR will "produce the technical information required and agreed by the contracting governments as necessary to proceed to approval of the project"
- The RDR Used the Sample Site Approach to Siting Considerations (One Sample Site per Region)
- The TDR Will Develop A Baseline Configuration that may not be Completely Suited to One or More of the Sample Sites or Other sites Currently Being Considered
- Preliminary Site Characterization may be Required to Identify Adjustments to the Revised Baseline Design Needed to Adapt to a Specific Considered Site
- Work is Being Planned for Additional Site
  Characterization in the Asian and European Regions



# Implications for the CFS Effort

- Adjustments to the ILC R&D Plan that Require Additional CFS Effort will Require Additional Funding
- Additional Site Characterization of the Americas
   Regional Sample Site (or Any Other Americas Site to
   be Considered) would also Require Additional CFS
   Funding
- Currently the TDR is Intended to Provide a Revised Baseline Design and Cost Estimate Suitable for Consideration for Project Approval
- Increased Levels of US Participation in the ILC Effort with Respect to Potential Sites Would Have a Dramatic Effect on Required CFS Funding



## **Summary Comments**

- The CFS Effort in the Near Term Will Continue to Leverage the Collaborative Efforts On-going at Institutions in Other Regions to Meet the Responsibilities of the Technical Design Phase
- Current Funding Levels are Adequate for the Effort Outlined in the Current ILC R&D Plan
- The R&D Plan may be Expanded to Examine More
   Alternatives for the Revised Baseline as the Technical
   R&D Progresses
- The Position of the US with Respect to Preliminary Site Characterization for the Sample Site (or Other Sites) Should be Considered During the Technical Design Phase I