DAMPING RING BASELINE TECHNICAL REVIEW

CONVENTIONAL FACILITIES AND SITING GROUP

CFS Damping Ring Overview

V. Kuchler

Preparation for the DR BTR

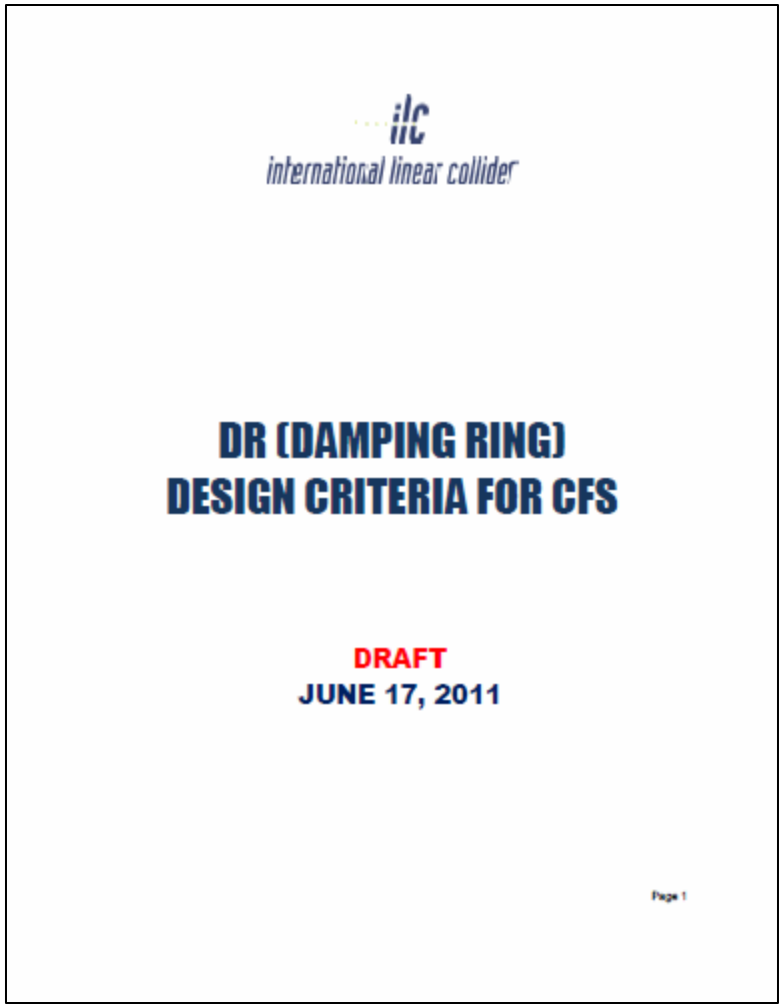
- A One-Day CFS Mini-Workshop for Damping Ring Criteria was Held on June 2 at Fermilab
  - Damping Ring Layout and Dimensioning
  - Mechanical Criteria and Equipment
  - Electrical Loads and Equipment
- Updated Criteria was Reviewed at the Weekly CFS Webex Meeting on June 28
- Criteria was Reviewed Directly with M Ross Throughout the Process of Development
- CFS Progress was Also Presented at the June 9 Global Systems Meeting and the June 22 AD&I Meeting

Preparation for the DR BTR

- Several Aspects of the Damping Ring Design Were Discussed
  - Personnel will not Occupy the RF Cavern During Beam On Conditions
  - Final Configuration of the RF Cavities, Klystrons and Related Equipment
  - A Thermal/Radiation Barrier will be Required Between the RF Equipment Cavern and the Damping Ring Tunnel
  - Beamline Spacing was Established
  - Tunnel Temperature Requirements were Established Including the Need for Temperature Isolation of Wiggler Areas
  - Magnet Power Supply Spacing and Configuration
  - Requirements for Equipment Alcoves for Injection/Extraction Straight Section

Damping Ring Documentation

- Initial CFS Criteria Package, Including Specific Criteria, Mechanical and Electrical Load Tables and Drawings, were Developed and Posted to EDMS
- Based on Discussions at the CFS Webex Meeting, Drawings were Revised and Posted to EDMS
- Results of this BTA will be Incorporated into the Criteria Package and Posted Again to EDMS
- This Criteria will be the Damping Ring Criteria Used by CFS for the Technical Design Report



Post DR BTR

- All CFS Criteria will be Updated as Needed
- Once CFS Criteria is Finalized Some Additional Drawings May be Needed to Fully Describe the Damping Ring Configuration
- The Final Complete Criteria Package will the be Posted on EDMS
- Adjustments Required for Civil Design will be Incorporated into the In-House Civil Design Efforts
- Updated Mechanical and Electrical Criteria and Requirements will be Provided to Consultants Working on the ILC Mechanical and Electrical Design and Cost Estimates

CFS Damping Ring Cost Estimates

- CFS RDR Cost Estimate
  - A" Cost is the Current CFS Baseline Cost
  - SB 2009 Costs are Also Available
  - Project Wide Mechanical Costs were Extrapolated from One Major Main Linac Shaft
  - Damping Ring Mechanical Costs were Scaled Based on Relative Heat Loads
  - CFS Electrical Design and Estimate was Completed at CERN and has not been Updated
  - Independent Verification of the RDR Electrical Costs is yet to be Completed
- New CFS Damping Ring TDR Baseline Costs
  - A Contract that will Provide a Mechanical and Electrical Design for the Complete ILC Project is in Place in the Americas Region
  - A Mechanical and Electrical Cost Estimate will Also be Provided as Part of this Work
  - Consultant Work is Scheduled for Completion Early September, 2011
  - The Design and Cost Estimate for Damping Ring Civil Construction will be Completed In-House by the Americas Region Team

Summary

- The CFS Group Would Like to Thank S. Guiducci, M. Palmer and B. List for Their Help in the Development and Posting of the CFS Damping Ring Criteria
- The CFS Group Intends to Use this Same Criteria Format for All Other ILC Area Systems
- While "Final Criteria" Does Sound Good, Changes Due to Evolving Damping Ring Design and/or Interfaces with Other Areas Systems will Necessarily Require Adjustments to the CFS Information and Re-Posting to the EDMS System, Presumably Under the Constraints of Some Form of Change Control Oversight