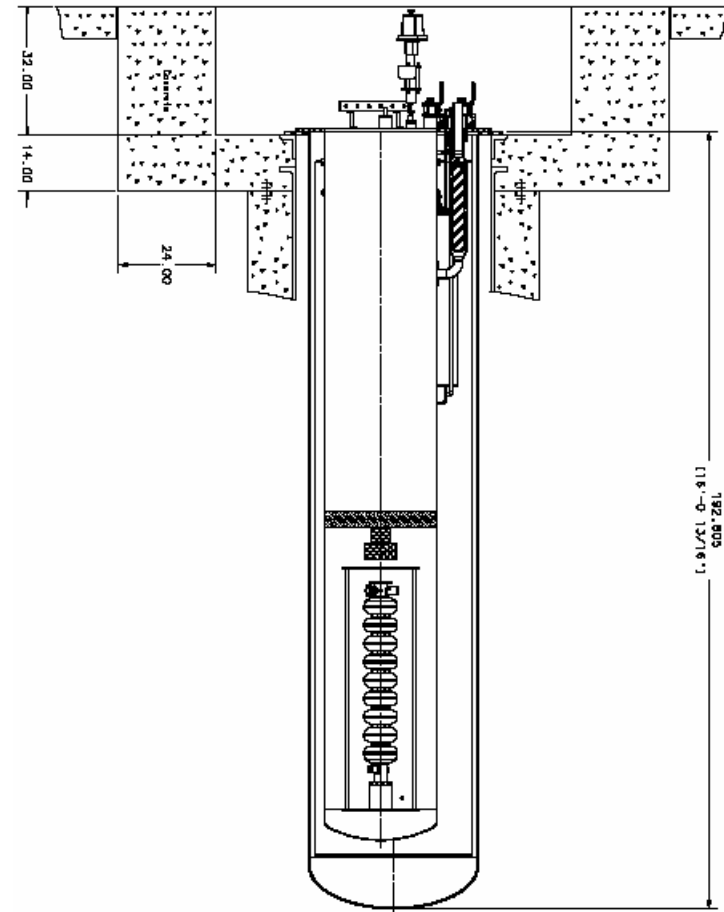


# Vertical SCRF Test Stand in IB1 Project Scope

- Bare 1.3 GHz 9-cell Tesla-style cavities
  - ✓ Measure Q vs. T and Q vs.  $E_{acc}$
- Cryo capacity ~60 W at 2 K
- 250 W RF power required at maximum gradient ( $Q=5 \times 10^9$ ,  $E_{acc}=35$  MV/m)
- Maintain “Controlled Area” status in IB1
  - ✓ <5 mrem/hr immediately outside shielding
  - ✓ <0.25 mrem/hr in normal working areas

# Cryostat Design

- Added phase separator to the DESY design for TTF, to provide better quality liquid helium Peterson, Sylvester, Wong
- Cryogenic capacity for RF Huang, Ozelis
  - “typical” CW Q vs. E measurement ok (no He bath temp increase) up to ~30 MV/m
  - Detailed document soon to be released
- Process & Instrumentation Diagram complete Huang, Rabehl, Wong
- Begin procurement Q3 FY06



# RF Instrumentation

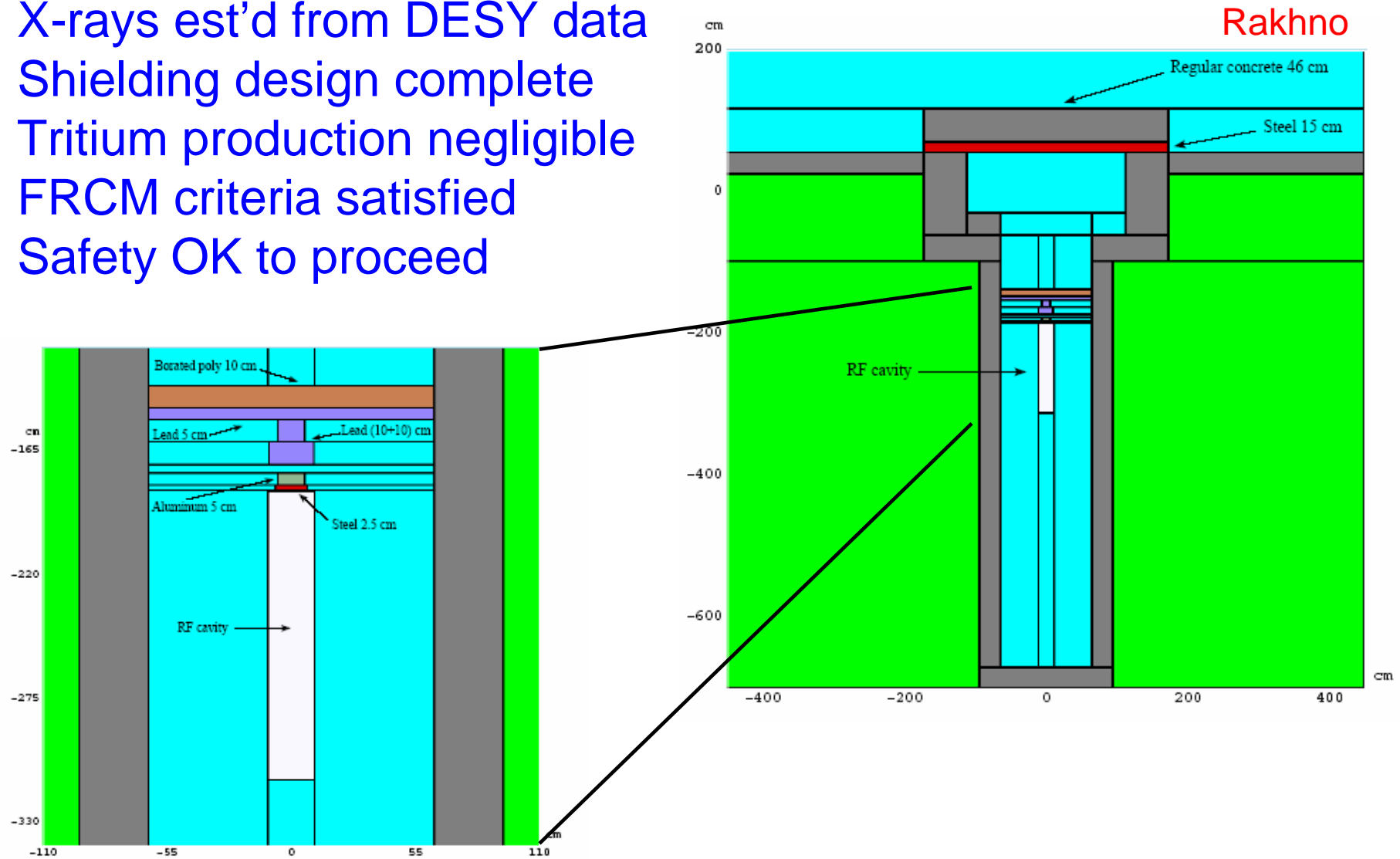
- Creating prioritized RF instrumentation list
- Determining layout of instrumentation racks
- Procurements start Q3 FY06, as much as possible
- Begin input coupler design Q3 FY06
  - Fixed vs. variable?

Ozelis

Lounine

# Radiation Shielding

- X-rays est'd from DESY data
- Shielding design complete
- Tritium production negligible
- FRCM criteria satisfied
- Safety OK to proceed



# Civil Construction

- Reliable cost estimate/schedule issued today for final pit design
  - shaft and pit installation
    - \$71 K
    - Must still review the FESS version of the drawings
    - Requisition next week
  - Pre-procured fiberglass basin
    - \$12 K
    - Requisition now in TD
  - Total including contingency & FESS engineering \$112,500
- Begin digging ~June 14 implies finish Aug.10

# Schedule

Update since shown to ILC@FNAL management yesterday

<b>Component</b>	<b>Design</b>	<b>Fabrication</b>	<b>Assy (IB1)</b>
Cryostat and Top Plate	Q2 - Q3 (06)	Q3 - Q4 (06)	Q4 (06) - Q1 (07)
Civil Construction	Q2-Q3 (06) Complete	Q2 - Q3 (06)	Q2 - Q <del>3</del> <sup>4</sup> (06)
Cryo System Modifications	Q3 (06)	Q3 - Q4 (06)	Q3 - Q4 (06)
Cryo Controls	Q3 (06)	Q3 - Q4 (06)	Q1 (07)
Radiation Shielding Lid	Q2-Q3 (06) Complete	Q4 (06) - Q1(07)	Q1 (07)
Safety Interlock System	Q1 (07)	N/A	Q1 (07)
RF	Q3 (06)	N/A	Q3 (06) - Q2 (07)
LLRF	Q3 (06)	N/A	Q3 (06) - Q2 (07)

# Materials & Services

Update since shown to ILC@FNAL management yesterday

Component	Total Est. Cost	FY06	FY07
Cryostat and Top Plate	\$200 K	\$200 K	
Civil Construction	\$112.5 K <b>\$100 K</b>	\$100 K	
Magnetic Shielding	TBD (few wks)	Yes	
Cryo System Modifications	\$50 K	\$50 K	Yes (updates)
Cryo Controls	TBD (few wks)	Yes	
Radiation Shielding Lid	TBD (few wks)		Yes
Radiation Shielding in dewar	TBD (few wks)		Yes
Safety Interlock System	\$10 K	\$10 K	
DAQ	\$7 K		\$7 K
Safety Interlock System	\$10 K		\$10 K
RF (incl.NWA,ampl,var.coupler)	\$160 K	\$160 K	
LLRF	\$7.5 K	\$7.5 K	
Cavity staging area	TBD		Yes
Test instrumentation	TBD		Yes
Total	\$545+ K	\$528+ K	\$17++ K
In Budget	\$750 K	\$400 K	\$350 K (request)