

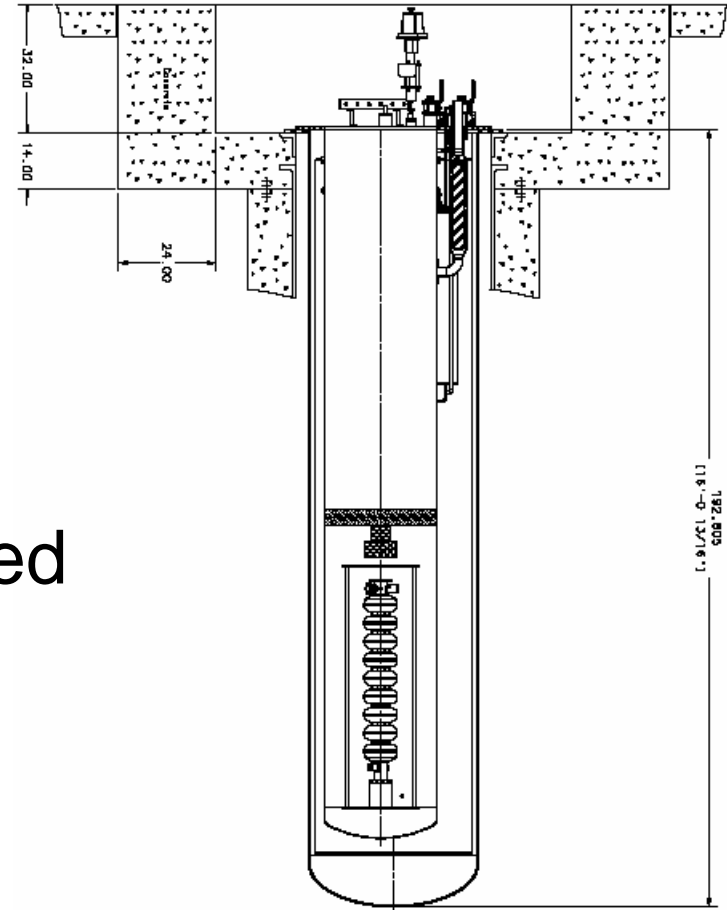
Vertical Test Stand in IB1

C.M. Ginsburg (Fermilab)
for the IB1 VTS Group

SRF R&D Meeting
6.July 2006

IB1 VTS Overview

- Test bare 1.3 GHz 9-cell SRF cavities
 - Measure Q vs. T
 - Measure Q vs. E_{acc} at 2K
- Cryo capacity ~ 125 W at 2K
- 250 W (CW) RF power required ($Q=5 \times 10^9$, $E_{acc}=35$ MV/m)
- Maintain “Controlled Area” status in IB1



Cryostat

Y. Huang, J. Ozelis, R. Rabehl, C. Reid, C. Sylvester, M. Wong

- Design and procurement readiness review May 16
 - Thanks to our reviewers: J. Theilacker, T. Nicol, P. Pfund
 - “Cryostat” = helium vessel, 80K thermal shield, 5K thermal shield, insulating vacuum vessel, heat exchanger, phase separator
 - Charge to the committee:
 - Assess the technical design of the cryostat and its readiness for the procurement/fabrication process
 - Comment on all technical aspects of the cryostat design, including integration to the IB1 cryogenic system
 - Provide a written report
- Have incorporated their recommendations to cryostat design, schedule, and procurement
- Few things remain: drawings, documentation
- Also, some anticipated tests of cryo system (not before RFQ)
- Expect Request For Quotes to go to Procurement July 18
- Updated schedule – Cryostat installation March 2007

Radiation Shielding

- Design from MARS15 simulation (I. Rakhno)
 - approved by ES&H
 - available as Fermilab-TM-2350-AD
- Will find a new person from ES&H to act as Radiation Safety Liaison, after Mike Herr's departure

RF System

R. Nehring, J. Ozelis, T. Powers (JLab)

- Preliminary design based on JLab vertical test stands
- Presented to R. Pasquinelli May 9
- Preparing updated design, meanwhile...
- Obvious/long-lead-time items already in procurement
 - RF amplifier, power meters, oscilloscope, etc.
- JLab visit by R. Nehring and J. Ozelis June 26-28
- Conduct an RF system review in August 2006
- Plan system test Jan 2007

Civil Construction

- Began Friday June 23 shaft installation (the big hole in the ground)
 - completed ahead of schedule
- Pit installation (recessed area, instrumentation trenches) in progress

Before (June 22)



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After (July 5)



Saw cut concrete slab



Pull out the pieces

Dig a 22' deep, 6' wide shaft



Insert fiberglass liner, refill w/concrete

Fiberglass liner



Dirt support casing
(removed)

A tight squeeze!



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Shaft complete



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