

Shutdown
Electronics Installation Proposal
June 5, 2009
Linda Bagby



Rack Layout



VETO/CRYO RACK

AC Distribution	2U
FEB Breakout	3U
Cable way	1U
NIM Crate	5U
Cable way	1U
Veto Remote Control HV	5U
CRYO Controls	22U
Aux Power Strip	1U

LI RACK

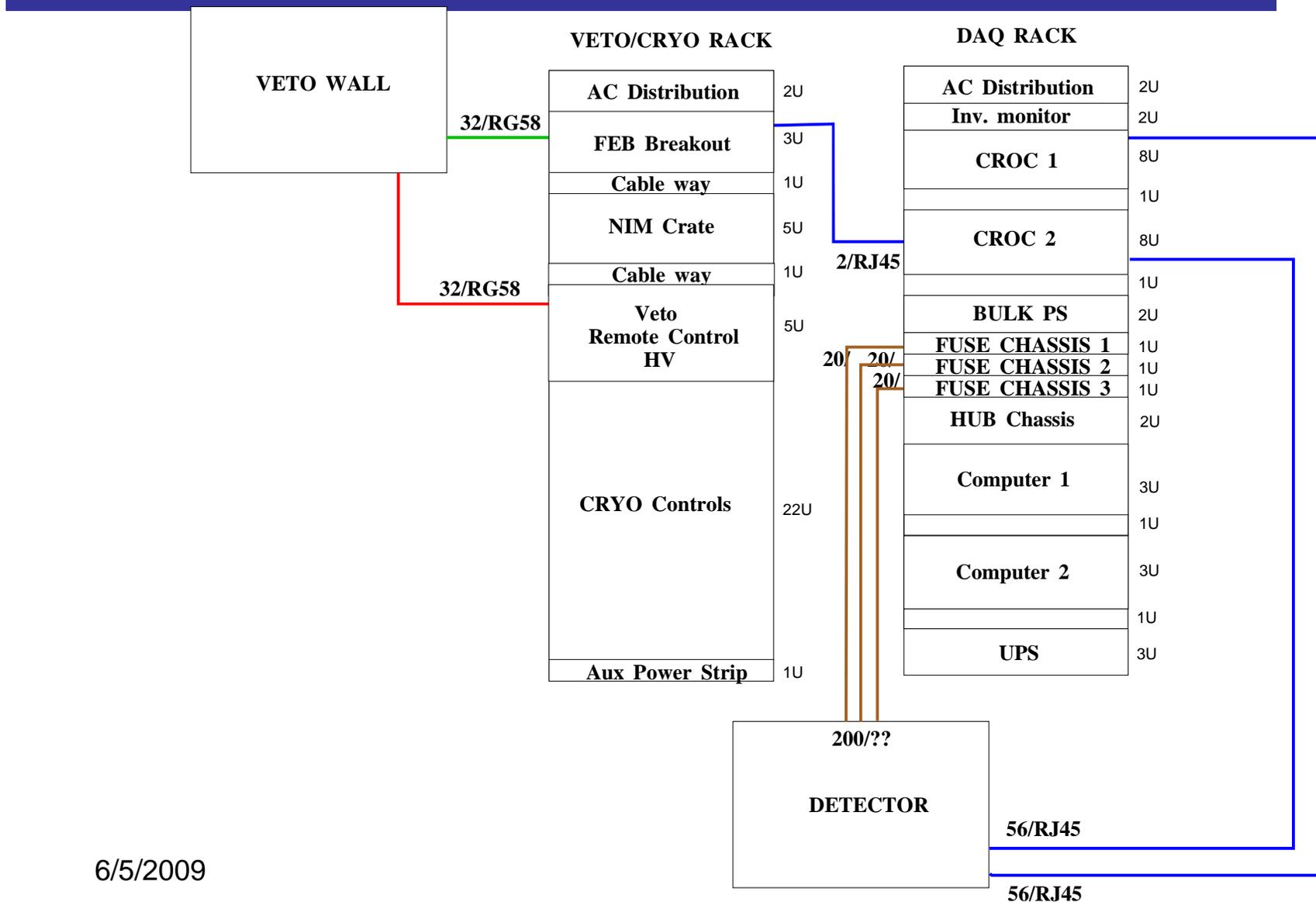
RPU	2U
AC Distribution	2U
LeCroy FG	1U
OPEN SPACE	10U
LI Box	13U
OPEN SPACE	11U
Aux Power Strip	1U

DAQ RACK

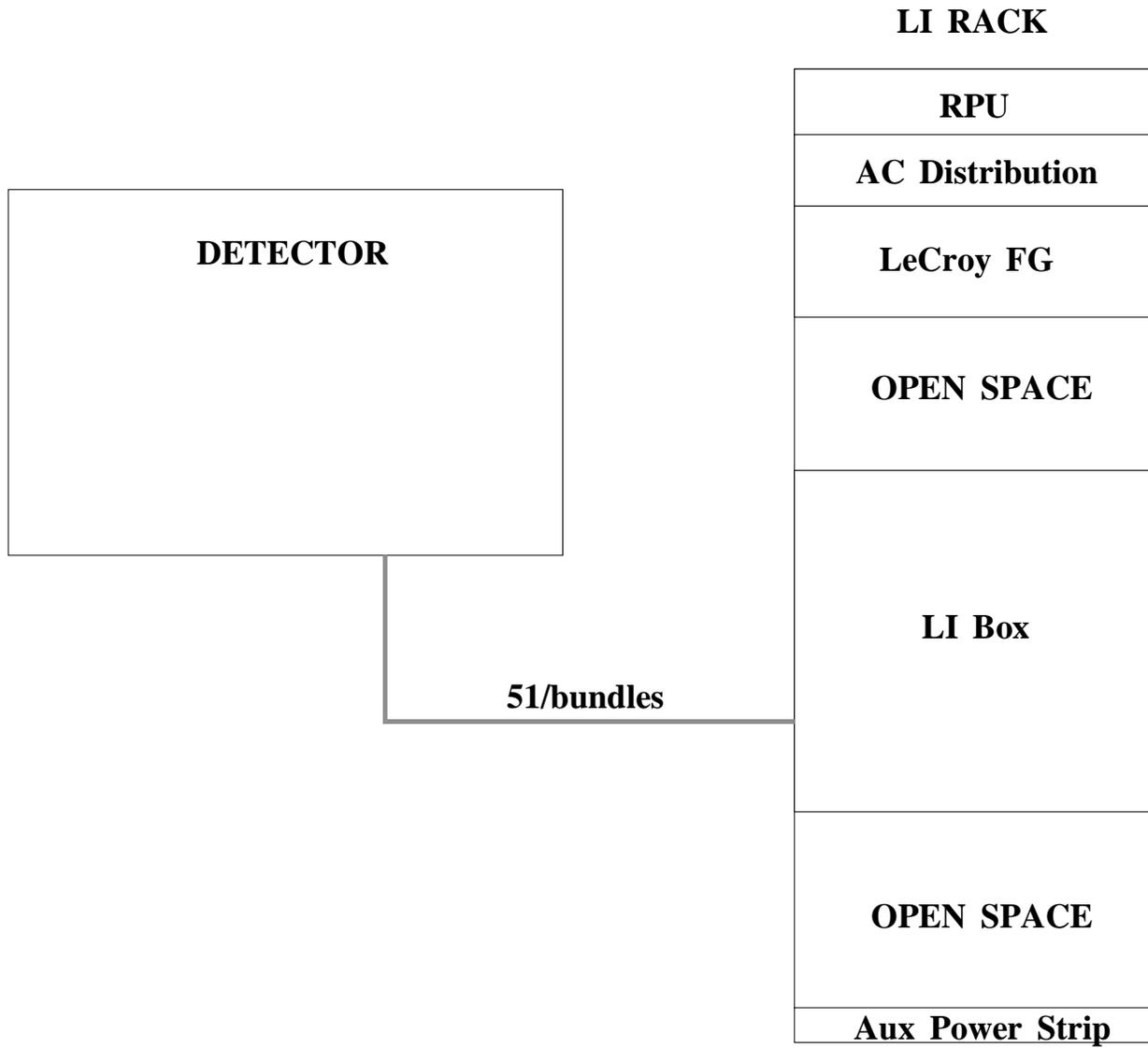
AC Distribution	2U
Inv. monitor	2U
CROC 1	8U
	1U
CROC 2	8U
	1U
BULK PS	2U
FUSE CHASSIS 1	1U
FUSE CHASSIS 2	1U
FUSE CHASSIS 3	1U
HUB Chassis	2U
Computer 1	3U
	1U
Computer 2	3U
	1U
UPS	3U

6/5/2009

Cable Plant



Fiber Plant



Veto/Cryo Rack



- **Mechanics are in pretty good shape.**
 - **Minor shelving adjustments.**
 - **Open space (if any) panels installed.**
- **Electronics--**
 - **FEB Chassis**
 - **Front and rear panels machined/installed.**
 - **Waiting on CAT6 coupler-ordered.**
 - **LeCroy HV Power Supply**
 - **Set-up and tested.**
 - **Source/destination mapping for cable plant.**
 - **Cryo**
 - **Electronics**
 - **Source/destination mapping for cable plant.**

LI Rack



- **Mechanics**
 - **Fiber bundle dressing designed and installed.**
- **Electronics**
 - **LI box modified w/ new cards.**
 - **Balance of connectors on rear panel installed.**
 - **Source/destination mapping for fiber plant.**

DAQ Rack



- **Mechanical**
 - New/used full size rack w/sides, vented rear door.
 - Shelving/power strip installed.
 - Additional CROC crate.
 - Cable guides.
- **Electronics**
 - CROC crate map.
 - Fuse Chassis
 - Internal twisted pair wiring.
 - HUB/Computer defined-get electronics off of rack side wall.
- **Cables**
 - LV
 - FP→FESB terminated w/ Cord ends / molex, bundled.
 - Source/destination mapping.
 - CAT6
 - In situ termination for long runs.
 - Manufacture shorter jumpers for FEBs.
 - Source/destination mapping.
 - Hub/Computer
 - Source/destination mapping.

Cable Plant Mechanics



- **Decide if present location of racks is acceptable.**
 - **Suggest leaving Veto/Cryo as is.**
 - **Need to decide which rack becomes LI-current Electronics or Computer-may depend on length of fiber bundles??**
- **We can do better with the cable tray installation.**
 - **Lids on vertical sections from detector.**
 - **Need more of the vertical sections built??**
 - **Single horizontal piece with side cutouts for sections going to racks.**
 - **Perhaps we can add another horizontal tray dedicated to fibers?**

Decisions.....



- **We need to decide**
 - **Which CAT6E cable we are going to use?**
 - **7852A**
 - plenum grade passed flame test.
 - 6K ft costs \$4.5K – in stock (blue/yellow)
 - **7851A (old BTeV-in house)**
 - Center conductor insulation drips when burned.
 - Can use but need to coat exposed center conductor insulation after termination with ‘goop’ from Howard Budd/Dan Ruggiero and redo flammability test.
 - Since the plan is to terminate in situ, ‘goop’ process has to be done in the hall—Yikes!

Suggestion—purchase the 7852A.

More decisions.....



- **Twisted pair cable- current cable is FT1, VW-1**
 - **Belden 82740-plenum grade**
 - Gray outer jacket
 - 25K ft min order @ \$13.15K (\$526/1Kft spool)
 - 5-6 wk delivery
 - Submitted for testing.
 - **Alpha 55062-plenum grade**
 - Black outer jacket
 - \$5.9K/1Kft spool
 - 6-7 wk lead time
 - **Belden 9409-FT4**
 - Gray outer jacket
 - Sample requested for testing.
 - Allied in stock, ~\$451/1Kft spool.

Plans



- **Generate mapping diagrams and spreadsheets required for cable labels and bundling configuration.**
 - **Includes detector labeling scheme, CROC crate layouts, slot/connector assignments.**
- **Place order for CAT6 and twisted pair.**
 - **Internal wiring completed for fuse chassis.**
- **Finish FEB front and rear panels.**
- **Develop cable/fiber tray design.**