SBND T-1053 Test Stand Planning Meeting

Near Term Plans for SBND Test Stand Areas

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Test Stands Overview

1. DAQ and Readout, DAB Annex Room 313
   - DAQ servers, Nevis electronics, PMT readout
2. Baby TPC with BNL electronics, high bay near 313
   - Jonathan's TPC, BNL motherboards and warm boards
   - Lockable area, already has had cryogens with µBooNE
3. Cosmic Ray test stand, DAB Sidewalk off high-bay
   - Igor's CRT for µBooNE first, then SBND
4. Faraday cage at F0
   - Linda's long wire noise tests
5. Online DAQ computing cluster, D0 2nd floor – *done*

1 + 2 + 3 = Full Vertical Slice Test "Chimney"

- *from wire to data logger*

Test Stand Locations

1. DAB Annex

2. Baby TPC Area

3. CRT in pit

4. F0 Faraday Cage

Neutrino Division DAB Test Stand Room

- Room 313 at DAB, "The Annex" and nearby high-bay space
  - Geoff Savage directing usage, Neutrino Div control
  - Major cleanup over last few weeks
    - But much still needed…
  - Electrical refurb soon, more outlets including 208V 3ϕ
  - Available for use for Neutrino experiments
    - μBooNE, SBND, ANNIE confirmed users (35t done)
    - Icarus?

Late news: µBooNE CRT putting production DAQ servers into these racks, we will have to procure more racks

Annex Plans

120V 1ϕ 208V 3ϕ 208V 3ϕ

Nevis readout crate, PMT VME crate, NIM logic

DAQ Servers, 10 gigb private DAQ switch, KVM, White Rabbit master

Slow controls testing, spares, contingency space

BNL MB, WIB, Flange here

Annex Basic Needs

- For unattended operation of custom electronics , need safety system and ORC review
- SBND RPS and power distribution under review for upgrades from µBooNE
  - Time scale? Plans?

Options:

1. Wait for SBND final system (when?)
2. Borrow µBooNE systems in Annex (permission?)
   - Need Eaton power strips
3. Cobble together from scraps at D0 (least preferred)

Annex Advanced Needs

Propose to begin quoting and purchasing computing and networking needs, starting now:

1. Private 10 gigE DAQ switch, ~48 ports
   - Talking to Andrey Bobyshev about this
2. Production scale DAQ server (PCIe room)
   - Informal discussions with Rennie's group continue
3. Addition White Rabbit starter kit (two PCIe cards)
4. A White Rabbit master/switch (new)
   - Eric's tests at PNNL make this system look good for us, let's expand the testing capabilities now
5. Go ahead and purchase Phenix PCIe device drivers
6. Install GPS and Ru Clock ✔ *ordered*

General DAB Test Stands' Needs

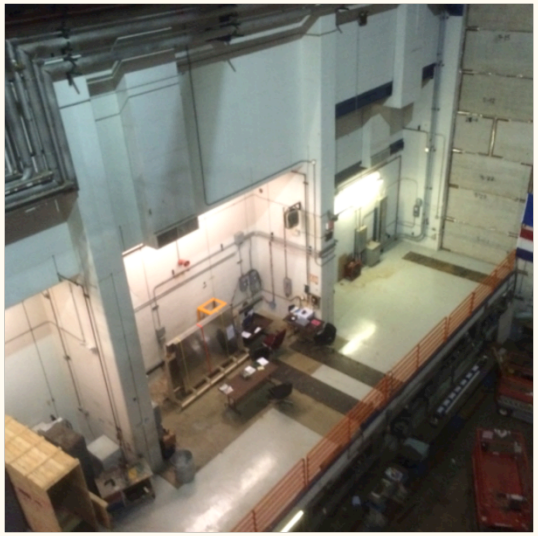
DAQ Network Fiber (dual)

× *N* …

N data link fibers, BNL WIB to Nevis

Clock/control/trigger lines

DAQ Network Fiber
White Rabbit Fiber
(both dual)
Consulting with network group on running cables



Minor Test Stand Needs

Baby TPC:

1. Small 1 gigE switch

CRT:

1. Small 1 gigE switch (done)
2. Local DAQ computer (done, connected?)

F0:

1. Small 1 gigE switch (need private? Or local OK?)
2. Windows Machine running LabView
   - Need to purchase $$ license

Test Stand Future

- Have not covered future elements: Baby TPC installation, Nevis, BNL electronics installations
  - Collecting needs and supplies from collaborators for note
  - Weekly meeting with Linda, Jonathan, Ting, Elizabeth Thurs 1pm
  - Will address in future meetings

We now even have our cabinet near DAB Annex. Please feel free to put valuable SBND items there. (Ask me for combo)