

Notes from the 04/25/06 MI BPM Upgrade Meeting
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These notes can be found in Beams docDB #1526.

Agenda as announced:

Project Announcements

Beam Instrumentation Workshop May 1-4

Main Injector Status - Dave C.

Hardware status:

Transition Board: delivery, checkout and testing.

Transition Board controller status

Timing Board

Cables, crates, backplanes, other.

Software status:

Front-end software

Online software

Status of full system tests

Validation

AOB

0. Project Announcements

- The Beams Instrumentation Workshop is scheduled for May 1-4 at Fermilab. The "general" paper draft is out and Peter suggested that we meet to discuss and refine it. A time and place for the discussion will be announced separately.

- No meeting May 2 due to the Beams Instrumentation Workshop.

1. MI Status - Dave Capista

- Work continues on the MI8 line and in the Main Injector. May 24 is still the official startup date for the Main Injector. There are a few vacuum problems but they are being dealt with. Some cabling needs to happen to connect the new BPMs to the new non-combiner boxes and Marv will make sure that gets done before the end of the shutdown.

2. Hardware status:

Transition Board: bids, filters, delivery, checkout and testing.

Transition Board I/O status

Timing Board

Cables, crates, backplanes, Optilogic, other.

Bob Forster's report on hardware acquisition:

MI-BPM Status (Significant changes are Highlighted)
April 25, 2006

Transition Module Assembly

- PO#568055 Total=\$17,042.52 bid to Lace Technologies.
- Qty=72, Assembly includes Front Panel fabrication.
- Unit price \$201.23 plus 3 extra Front Panels.
- Expected Delivery :
 - o First 2 – Bob picked up & Received Thurs April 6.
Initial testing by Manfred, Andrea & CSS' Rick Mahlum identified a couple of required changes.
Andrea and Bob visited Lace Friday April 14 to address the assembly changes. Lace agreed.

Friday 4/21 Status:

- Surface Mounting is complete.
- ~2/3 are through the hand assembly and are finished but for front panels.
- Front Panels were shipped towards Lace on Thursday Apr 20; so are due Tues Apr 25.
- Delivery by end of April looks good.
- o Remainder - could be delivered by End of April.
- CD/PREP will give each module a property number.
- AD will provide Long Term Support.

System Cables

- PO#566784 Total=\$34,413.40 Sole-Sourced to Casco.
- Expected Delivery : <complete>.
- 39 Failed cables were returned to CASCO for repair.
 - o The loaner Fermilab crimp tool will be returned with the repaired cables.
- All but one of the MI8 Cables was delivered to John Van Bogaert Friday April 21, 2006.
 - o The “but one” missing cable was part of the group returned to CASCO for repair.

Analog VME Chassis (J1 used as) J3 Backplanes

- PO#568474 Total=\$5,830 Sole-Sourced to Hybricon.
- Unit price: \$530 (Qty=11 * \$530 = \$5,830)
- Expected Ship Date: Weds 19-Apr-06 (by phone)
- Expected Delivery : <Complete Friday April 21.>
- In Progress : CSS' Bill Barker obtained the Analog VME Chassis & Power Supplies from AD's John Seraphin to assemble, tag and align the complete Analog VME Chassis. Cables & connectors from the power supplies to the backplanes have to be procarded.
- Stefano Rapisarda and Neal Wilcer are reaching a

decision on the best termination to use on the newly delivered Hybricon backplanes.

Digital VME Chassis

- PO#566244 Total=\$67,292 bid to DAWN.
- Unit price: \$4,205.75 (Qty=16 * \$4,205.75 = \$67,292)
- Expected Delivery : <complete>.
- DAWN UDP firmware works w/o Optilogic Hardware. Requires a firmware upgrade to all crates.
- In Progress : Bob and CSS' Bill Barker visited Charlie Briegel and learned how to apply the firmware upgrade to the Dawn chassis.
- o This upgrade is only being applied to MI chassis.
- Luciano is applying for DAWN Crate IP Addresses.

Air Dam Modules

- PO#568441 Total=\$5,148 Sole-Sourced to Elma.
- Unit price: \$17.16 (Qty=300 * \$17.16 = \$5,148)
- Expected Delivery: 14-Apr-06 (from PO).
- Bob phoned Elma Thurs Apr 20 for a delivery update, but the call was not returned by Friday evening.

- Stefano gave an update on the Transition module controller board. The PO is placed for the circuit board and the layout is complete. The boards might arrive on Friday this week (4/28). The first module would be assembled as soon as possible. This is running a little behind schedule. Stefano's report can be found in beams-doc-1526.

3. Status of full system tests

- Space has been cleared at FCC3 for the full system tests. Components will be collected in preparation for testing of the 7 systems. An arbitrary order will be followed until the MI department gives a preferred order for testing and eventual installation and commissioning.

3. Software status:

Front-end software
Online software

- No major changes. Thinking about a test suite for the full system tests.

4. Validation

- Rob showed slides (beams-doc-2234) with some analysis of the test

bench data for the BPM pickup response. One interesting question is whether a better overall accuracy can be obtained by assuming the beam is off-axis by 5 mm rather than at 0 mm. This depends on the details of the beam trajectories in "normal" and other running conditions.

- More results will be shown at the next meeting in two weeks time.

5. AOB

- Bob Webber showed us many plots from his upcoming paper on the tunnel measurements and results of some analysis of those measurements. There are no significant changes from what was reported earlier. However, this paper will contain tables that can be used to correct the raw A and B voltages before calculating position or to correct position by adding an offset. The decision as to what to do will be made based on the difference that one gets from doing one vs the other, whether it matters, and how difficult or easy it is to implement the two different corrections for differential cable response.