

Notes from the 04/18/06 MI BPM Upgrade Meeting
Stephen Wolbers
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, Optilogic, other.

Software status:

Front-end software

Online software

Installation and Commissioning

Validation

AOB

0. Project Announcements

- Bob Webber is working on the documentation of the measurements of the cables in the tunnel. This generated a long discussion about how and where the numbers (once they are available) will be used. There are at least three things we can do: Ignore them, use the numbers to correct the relative A/B values and propagate this to the formulae that compute the position from A and B or add an offset (in mm) to the position calculated using uncorrected A and B values. Rob K. will look at the options and give us some idea of the difference in correcting A/B vs. adding a position offset.

- The Beams Instrumentation Workshop is scheduled for May 1-4 at Fermilab. There are three papers being written about the MI BPM upgrade. A first draft of the "general" paper should be circulated this week for people's comments and additions.

1. MI Status - Dave Capista

- Dave got us up-to-date on the status of the MI shutdown work. The MI8 work is still going slowly but it does not look like it will holdup the end of the shutdown.

- Quad installation continues. Vacuum leaks are being found and fixed, some odd "features" of the systems are being found and fixed

(like broken crawling wires).

- The schedule is still to begin MI startup on May 24.

2. Hardware status:

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

Transition Board I/O status

Timing Board

Cables, crates, backplanes, Optilogic, other.

- The first two transition boards were reported on last week. Bob Forster and Andrea Saewert went to Lace on Friday and discussed the problems that were seen with the company. Lace agreed with our assessment of the problems and miscommunications and has started production of the full set of boards. The first couple of boards will be picked up and checked to be sure that all is well. The first two boards were repaired by Lace and they are working. The front panels are being made by another company and they will hopefully be ready by the end of the month. If all goes well we will have the full set of Transition Boards by the end of April.

- The cables are all tested. A few had problems and will be returned for replacement.

- The backplanes are scheduled for delivery very soon. Bob Forster will check on the status of the delivery.

- Airdams are not here yet and this will also be checked.

Bob Forster's report on hardware acquisition:

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 – Picked up & Received Thursday April 6.
Initial testing by Manfred, Andrea♣ & CSS' Rick Mahlum identified a couple of required changes.
Visited Lace Friday April 14, 2006.♣
Lace will address the issues we raised.
Our timing was good – Lace could start running the remainder of our♣ boards “this afternoon”.
- With the hand assembly and front panels ...
 - o Remainder - delivery could be by End of April.
- CD/PREP will give each module a property number.

- AD has Long Term Support responsibility.

System Cables

- PO#566784 Total=\$34,413.40 Sole-Sourced to Casco.
- Expected Delivery : <complete>.
- Testing was completed by CSS' Tom Boes.
43 36', 8 50', 7 36', 2 50', and 500 8' cables.
Tom found 1 bad 8' cable out of 560 in the lot.
- Bob has CASCO RMA's to return the failed cable with the failed cables from the first batch for repair.
- Bob has arranged for the return of the Fermilab crimp tool remaining on loan to CASCO.

Analog VME Chassis J2 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 : Tues 25-Apr-06 (Extrapolation)

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.

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)

- Stefano gave an update on the transition board controller module. Work proceeds on the layout, the PCB quotes and the firmware. Hopefully the PCB boards will be ordered soon and then assembled next week. Stefano's report can be found in beams-doc-1526.

- Timing board card for connection to the transition board controller is assembled. Most or all cables are in hand.

- Manfred talked about a test program for the Transition Boards. The test procedure is being developed - mainly to find bad channels, incorrect assembly, etc. The testing will likely be done at FCC by Tim's group. This testing will need to start when the boards come in.

- There was some discussion of full system tests (e.g. MI10) before installation and commissioning. The systems will have to be assembled and some basic tests run to ensure that the system is functioning properly with no dead channels, bad backplane connections, bad cables or connectors, etc. We will need to establish a group to organize this work and have them report starting next week on progress.

3. Software status:

Front-end software

Online software

- Network cables have been installed for the front-ends in the 7 service building locations. Still need the same for the crate monitoring.

4. Validation

- Still working on the electrode measurements and will show them next week. Also working on the text and figures for the BIW paper.

5. AOB