

Notes from the 05/23/06 MI BPM Upgrade Meeting
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These notes can be found in Beams docDB #1526.

Agenda as announced:

Project Announcements
BPM/BLM installation/commissioning - Marv, Jonathan
Main Injector Status - Dave C.
Installation and Commissioning - Bob Dysert
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 - Bill Haynes
Validation
AOB

0. Project Announcements

- Bob Dysert has agreed to coordinate the installation and commissioning of the MI BPM system. He will be working closely with Peter Prieto and of course many others in the project. We will all work closely with Bob to get the system installed and running as quickly as possible.

- We will meet Tuesday May 30 at the usual time (9:30). It is the first day back from a 3-day holiday weekend but we agreed that it will be a good day to meet and continue to make progress.

1. BPM/BLM installation/commissioning - Marv, Jonathan

- Jonathan came to the meeting to discuss the coordination of BLM and BPM installation.

- Marv showed his rack layout drawings. See beams-doc-1822-v4.

- Installing the BPM alone before the BLM requires extra moves of equipment (effectively two or more installations). The same is true of installing BLM first.

- Jonathan reports that there is enough BLM hardware in-hand (or will

be very soon) to install an entire building quite soon.

- After some discussion we took a decision to install both BPM and BLM in an entire building (MI40) as soon as that is possible. The scheduling of the install will be discussed at the next meeting, Tuesday May 30. This installation will necessarily be disruptive but with fairly careful planning we should be able to minimize the downtime and get the new improved system up and running fairly quickly. Scheduling the installation will have to be done with some care with MI coordinator, operations, run coordinator, etc. It is expected that the installation will either be next week (assuming that all testing goes well, the accelerator is running smoothly, etc.) or the week after that.

2. Main Injector Status - Alberto

- News from the MI up to 9:30 Tuesday May 23: beam circulates at 8 GeV but falls out of the machine during acceleration. Lots of theories of why this is true but no understanding as of that time.

- Plan is to accelerate as soon as possible, set up extractions, NUMI beam Friday/Saturday.

- A few problems were found with some of the BPM's - 608 probably had A and B cables swapped. 521 had what looked like an unplugged cable (521 is an old wide aperture magnet with 45 degree BPMs) and 612 had some strange offset that was not understood.

- For the extra wide BPMs the proper offsets and scalings had not been completely implemented yet but people had plans to do that. This work is all with the old BPM electronics but obviously the new system will have to have the proper offsets and scaling done as well.

3. Installation and Commissioning - Bob Dysert

- Bob showed some slides detailing the thinking and planning for the installation and commissioning of the new BPM electronics. His slides can be found as beams-doc-2276. I encourage people to have a look and comment on the plan.

- Bob showed the steps necessary for "phase 1" installation and commissioning, giving the functionality of the current system.

- The steps are all laid out and will be refined as we understand better what is required and the time it takes to accomplish various steps in the installation, cabling, software modifications, scaling, corrections, etc.

- Part of the plan is to finish a building with proton measurement capabilities and then move to the next building while continuing to implement and commission pbar measurement and other functions as needed.

- A couple of things that came up in discussion include kicker noise, first turn timing, using orbit differences to understand gross errors, 3 bumps to sort them out, automating the 3 bumps.

4. Hardware status:

- Transition Board: delivery, checkout and testing.

- Transition Board controller status

- Timing Board

- Cables, crates, backplanes, other.

- Transition Module Testing (Manfred, Tim)

- Rick Mahlum has soldered on all the filters. He will work on jumpers next.

- Board testing should begin soon. During the testing of the test program a couple of oddities were found on the board. The high/low setting of the post-amplifier give a slight difference of behavior (effectively a position offset) between the high and low settings. It is systematic, which is good, but Manfred would like to understand it. It may be ignorable. The test signals, derived from TTL, have large variations. This may not be a big problem given that these signals are not calibration signals.

- Plan is to start the testing of the transition boards Tuesday afternoon. By sometime later this week there should be enough tested boards for the MI40 full system tests.

- Transition Module Control Card (Stefano)

- Stefano's slides can be found in beams-doc-1526.

- Almost 8 modules are assembled and the remaining modules are rapidly being completed.

- Analog crate work continues to define the power harness/connections required. Crates will then be assembled and tested.

- There are some nice photos in Stefano's document of the test stand, the analog crate, the control module and transition card testing.

5. Software status:

- Front-end software

- Online software

- Working on the software for the full system tests.
- New version of I44 which includes more system checks.
- The electrical offsets of the new BPM system will be set to 0. The gain offsets will be implemented as A/B scaling as soon as we get the final A/B gain difference data from Bob Webber.

6. AOB

- We decided to end the meeting and get back to work to plan the testing, installation and commissioning. Next meeting Tuesday May 30 at 9:30.