

Notes from the 06/13/06 MI BPM Upgrade Meeting  
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These notes can be found in Beams docDB #1526.

Agenda as announced:

MI operation status, status of MI-40 BPMs - Dave C.

Hardware status:

Transition Board: checkout and testing.

Transition Board controller status

Timing Board firmware mods

Software status:

Front-end software changes

Online software

Status of full system tests - Bill Haynes

Installation/commissioning schedule first house MI-40

Validation

AOB

## 0. Project Announcements

- None this week.

## 1. Main Injector Status/MI40 installation discussion

- Dave indicated that the MI is running well. He has been using the prototype MI40 (house 44) upgraded system and it is working nicely since all the problems were fixed last week. Dave has exercised various features and they do work. Dave did mention that there are occasional (estimated 1 in 20) "no data" returned from the system. This needs to be understood.

- The bulk of the meeting was devoted to discussing the installation of the MI40 BPM and BLM hardware. We discussed who would be informed, especially from the operations side (Jim Morgan, the run coordinator, and Ming-Jen Yang, the MI coordinator and the crew chief). We also discussed the date to install. We agreed that Wednesday June 14 was the target date. No operational barriers exist to installing that day.

- The steps for installation and commissioning are included in a document that Bob Dysert has put together and which Peter, Manfred and others will follow. (The plan is in beams-doc-2292-v1.)

- A few discussion points include the quality and length and source of clock signals, who is working on the installation (Marv, John Seraphin, John van Bogaert, Bill Barker), when to start (08:00 if

possible), target for getting the system up and running (12:00), checks of positions with beam and bumps, taking care not to trip off the Recycler or to lose the stash, etc.).

- There was also a discussion with Jonathan Lewis about the BLM installation. They are ready to install BLM at the same time.

## 2. Hardware status:

Transition Board: checkout and testing.

Transition Board controller status

Timing Board firmware mods

- Tim reported the latest on the Transition Board testing. 36 boards have passed after testing and in many cases repairs. The rate is about 4-6 boards per day. Manfred reported that there was one board in particular that was very bad in terms of quality. This board will be brought to LACE along with at least one other as we discuss with them the overall quality of the assembly.

- Stefano gave an update on the controller. The manual/documentation is being written and the firmware is being written and the boards are being tested. The MI40 board will be a new board that works like the prototype boards. Stefano's report is in docDB (1526).

- There was a discussion of the power-up sequence and protection that might be required to not overload and possibly harm the Echotek boards. A final procedure or automated system is not yet in place so people will have to discuss, think about, and implement some procedures or protections, or convince themselves that there is no danger here of any harm.

- The timing board is working and the issues that came up after the startup are now resolved. Manfred mentioned that the cables (input) to the timing board at MI40 were not of the highest quality and had various connectors that were not ideal. Of course the real production systems will be better but we do need to sort this out.

## 3. Software status:

Front-end software

Online software

Status of full system tests - Bill Haynes

- Steve Foulkes showed some results from the MI40 system test. Most of the tests worked as expected when 53 MHz or 2.5 MHz test signals (equal A and B, A only, B only) were used as input. However, there were a few oddly behaving tests that still needed understanding. Peter offered to help and will have a look at the test setup.

#### 4. Validation - Rob Kutschke

- Rob showed some results of his analysis of the wire data from all of the BPMs. There were some interesting variations (some were quite dramatic) from the average behavior. Rob would like to see the serial number -> tunnel location mapping.

- There was some discussion of whether off-axis behavior is important when studying the machine or whether only on-axis values are used.

- Rob will write his results up and will decide how large an error we get from using the same mapping function to get from A and B values to position for all similar BPMs.

#### 5. AOB