Notes from the 08/22/06 MI BPM Upgrade Meeting
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These notes can be found in Beams docDB #1526.

Agenda as announced:

Project announcements - Steve and Bob
MI BPM status list (what works, what doesn't) - Dave
p timing - Bob Dysert
53 MHz gains - Bob Dysert
Transition board controller status - Stefano
& Board by board gain control - Stefano
Alarms - Dave
Diagnostic/testing - Marv, Manfred, others
Software - Steve, Luciano, Brian
Validation - Rob
AOB

0. Announcements.

- The project should develop a punch list and verify that the items listed are completed.

- Bob is working on pbar timing and ran into a problem with the 0 and 1 channel delays (compared to 2). Because of it the process was not converging. Peter Prieto has helped in an understanding of the behavior of the channel delays. It should be possible to make progress now that the behavior is better understood.

1. MI BPM status list (what works, what doesn't) - Dave
Alarms - Dave

- Dave has seen some behavior in the system that he is not particularly happy or comfortable with. It is connected to the seam location (601), the FLASH data missing at 531 and 532, and the ability to change the settings with confidence. We had a very long discussion about it, realized that the problem is not well understood, and assigned a high priority to getting to the bottom of the situation. This system should have well-defined and expected behavior. Rob Kutschke and others will lead the effort to sort this out.

- As reported before much of the system has been tested and does seem to work properly. A checklist of punch list has not yet been made but Dave promises to bring such a list next meeting.

- The BPMs with large offsets have been checked by Marv and Peter for

obvious possible problems - cables, connectors, combiner boxes. A few more tests will be made but it looks like there may be an offset (from survey, magnet placement, whatever) that is part of the system. The BPMs in question are 410, 418 and 634.

- Alarms are another hot item. MDAT, TCLK, BES, Crate Temps, Parity checks are all requested for alarms. This looks straightforward and work will proceed there.

- A "self check" of the system to verify that settings are properly loaded and read back (timing, gains, etc.) was a topic of some long discussion. A bit more thought as to what exactly will be tested and with what frequency is in order.

2. p timing - Bob Dysert
   53 MHz gains - Bob Dysert

- Bob was working on the proton timing for MI10, 20 and 30. He also ran into the channel delay 0,1 issue and will take that into account as he works to time in the whole ring.

- For 53 MHz gain settings Bob will talk to Dave and they will make measurements under different beam conditions. Updates will be given next week.

3. Diagnostic/testing - Marv, Manfred, others

- Related to the previous discussion there was a presentation by Marv and Manfred of a proposed diagnostic for the system. The proposal is for test signals to be used to test the transition boards and the Echotek boards to allow for debugging when a problem is reported and for long-term stability of the system. There was some discussion of what signals to use (2.5 MHz and 53 MHz), how often to run the test (1 hour), how many gains to test (likely 3), along with details on how to implement the changes. Peter and others mentioned that the NUMI beamline BPMs have a very similar application. Marv and Manfred will take a look, will iterate on their document, and present the update next week.

4. Transition board controller status - Stefano
   & Board by board gain control - Stefano

- Work continues on the transition board addressing and readback. Work is proceeding along the lines laid out last week. Stefano needs 8 more transition boards for further testing and that will be arranged.

5. Validation - Rob

- Rob has valiantly soldiered on even with a broken right arm and is analyzing data from various states.

- Rob showed data from protons going to the Tev and for antiprotons going from the Recycler to the TeV (not sure which states those are). A full writeup will come later.

- Rob's slides can be found in beams-doc-2404. There are some interesting distributions of raw signals, timing, stability, noise, etc. All of this generated a fair amount of discussion. Rob will continue his investigations and will present updates at future meetings.

6. AOB.

- We ran out of time. We will continue to meet weekly.