

Notes from the 5/24/05 MI BPM Requirements Meeting
Stephen Wolbers
These notes can be found in Beams docDB #1526.

Greg Vogel: Beam Sync Clocks

- Greg Vogel came and gave a very nice discussion of the MI (and other accelerator where relevant) Beam Sync clocks and related timing and state information.
- Greg's slides can be found in Beams docDB #1845.
- Some highlights of the discussion (as best as I can describe it):
 - Beam Sync is fed by LLRF in each machine. 1 in MI, 2 in TeV, 1 in Recycler.
 - 16 Beam Sync's are possible in MI, 14 are used, 2 are reserved at this time for MI BPM.
 - Much of the information can be found at http://www-bd.fnal.gov/controls/hardware_vogel/index.html
 - Clock signals are available in all MI service buildings.
 - 53MHz signal is available whenever the LLRF is on
- There was a discussion of possible options for triggering the to-be designed MI BPM system in light of various different cycles, different injection schemes, etc. It seems likely (but not proved) that the timing board can be programmed to handle all of the possible situations.

Dave Capista: Update on Requirements/buffer diagrams

- A new requirements document has been added to the Beams docDB #1786-v2. Comments should be sent to Dave Capista and Alberto Marchionni and copied to mi-bpm-project@fnal.gov. Though still in development the requirements are helping to define the design and people should look at these carefully.
- Dave presented some proposed buffer diagrams for the MI BPM upgrade. These can be found in Beams docDB #1834-v2. The 4 diagrams are: 1. Tevatron BPM upgrade 2. Tevatron Hand-Me-Down System for MI 3. State System for MI 4. Clock System for MI and these are more or less self-explanatory.

- Dave focused on the "Clock System for MI" buffer diagram and discussed the possibilities for collecting data in closed orbit, turn-by-turn, injection, 2.5 MHz and 53 MHz.

- Given that such a buffer diagram is useful for designing the data acquisition, processing, and presentation of data people should be looking at this carefully and commenting appropriately. There are still unresolved issues of what the sequence of data collection is for each type of cycle, what is possible given the constraints of the hardware, software and controls system, etc. These issues will have to be hammered out over the coming weeks.