

Minutes, 4/20/05 Tevatron BPM Upgrade Meeting
Stephen Wolbers

This set of minutes, and all future minutes, are or will be deposited in the Beams Document Database as document number 792.

The agenda as announced consisted of:

Report from Bob and Steve
Reports from subproject leaders
Report from Jim Steimel
AOB

1. Report from Bob and Steve

- The PAC2005 is coming up. The TeV BPM project has 4 papers to write and submit from Bob W., Rob K., Gustavo C., and Steve W. We have one talk to give (Steve W.) and 3 posters to present (Bob W., Rob K. and Gustavo C.) The deadline for paper submission is May 11, 2005.

- Steve reviewed some of the major tasks remaining for the project before we complete. These include:

- Solve TBT problems.
- Solve missing TCLK problems.
- Solve 6 phase problem.
- Implement safe mode.
- Implement pbar measurements.
- Implement calibrations and calibration DB.
- Determine and implement overall scale and corrections for higher order terms or off-axis terms).
- Implement diagnostics.
- Documentation.
- Closeout project.
- Party.

- Commissioning status is:

- 14 houses installed and connected, 11 commissioned
- 9 houses installed but not connected
- 4 houses to install (F3,F4,A0,F1)

2. Reports from subproject leaders

Mike Martens:

- Mike reported that the FLASH frames were all OK during the past 4 stores. No missing TCLKs were seen in the PROFILE frames as well. There was some discussion of why the system is working as it is but no firm conclusions were drawn. However, it is great news.

- Mike sent out mail pointing out that people are looking at the TBT data while giving the beam a kick.

- Mike is looking at the signal strength at 0.6 and sees a signal strength of about 20 microns, which may vary from time to time. Yuri and Eliana are looking at and analyzing the data.

- Mike is talking to Greg Vogel about TCLK assignments to implement the plan to fill in USER PROFILES with data needed for pbar calculations and checks. He meets with Greg on Thursday for further discussion. The old BPM/BLM TCLKs are probably not available until both systems are replaced.

- Yuri, Eliana and others are organizing to study the beam by kicking it. Bob suggested that everyone talk to Valeri Lebedev to see whether his effect can be studied at the same time.

- Mike is thinking about what is needed to truly declare that the BPM project (not the system) is finished. This includes things like alarms, T39 changes, checking the requirements, etc.

Rob Kutschke:

- Rob looked at all 14 houses with proton cables connected and found no 6000 (or 7800) turn problem. To do this he used Roger's new TBT program.

- Rob described some of the individual BPM problems that he has seen recently and these will be pursued and fixed.

- Marc Mengel is looking at the data that is needed to fill the calibration DB. There are some questions about some of the data and those will be pursued. He may be ready next week to present something.

- The pbar method is waiting for Mike to set up the USER PROFILE with the proper data. We had a short discussion of how to accomplish what is needed to get pbar data reported. It may require doing something "by hand" and using it to generate coefficients to be used to make the calculations.

Luciano Piccoli:

- Luciano is working, along with Margaret, Bill, others, on the 7800 turn and missing TCLK problems. Certain debugging and monitoring tools have found some problems and Rob's phase checker was also integrated into the front end. They are also looking at the VME backplane. So far many small issues and possible problems have been identified and either fixed or more information is being gathered.

- At this point Jim mentioned that there seemed to be a break in the position measurement of HA24 at about 7000 turns. (Later investigation by Rob and Jim reported that this is beam motion.)

Bill Haynes:

- Bill is working with Luciano and others on the TBT problems and is creating new timing board firmware to help debug and solve problems. This work will continue and at some point new firmware will be requested to load in all the timing boards in the service buildings.

Vince Pavlicek:

- Lark has the failed filter pairs but there is no feedback yet on what action they will take.

Tim Kasza:

- Tim's group is helping with crate installation and cabling work. Tom Boes is filling in this week with Bill Barker being away.

- Almost all crates are assembled and tested.

Brian Hendricks:

- Finalizing the scripts for adding new houses. The order has changed a little and that required some changes.

- Brian will think about changes to T39 that were requested by Mike.

3. Jim Steimel

- For the continued commissioning we will connect a maximum of 4 houses to proton cables each turnaround.

- F3 and F4 are complicated. There are extension cables for the proton signals that

need to be strung and connected, and the old MR BPM electronics has to be removed in order to install the new system.

- A0 and F1 require that the old TeV BPM system electronics be removed to create space for the new system.

- Jim has examined the 6 phase problem in at least one house and believes that a change in timing (half-bucket) will solve it. This might work for all such problem channels.

- Jim is looking at the phase difference between the A and B plate as a function of position. The correlation is not consistent BPM to BPM and that might be due to the position of the beam in the volume of the pickups and the fact that the pickoff electrodes are not in the center of the pickups.

4. AOB

- No meeting Thursday April 21.

- Weekly meetings on Wednesdays unless special topics or problems come up.

- The project is moving along very well. Congratulations to everyone for their hard work and careful debugging!