

Minutes, 8/11/04 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:

1. Report from Bob and Steve
2. Reports from teststand/A3
3. Report from Technical Coordinator -- Jim Steimel
4. AOB

1. Report from Bob and Steve.

- Congratulations to everyone for the success on reading out beam positions at A3! This is truly an excellent accomplishment and leads the way to the full development of the production system. Good work.

- 1 1/2 weeks of beam left.

- MOU's are moving again. The H/W MOU will go to AD Division office soon for circulation and feedback (it has already been through CD). The S/W MOU has gone to the TeV BPM Upgrade project for comments. Once all comments are received and accommodated the draft will go to CD and AD.

- Jim Steimel is on vacation this week. Steve Wolbers will be on vacation next week. The project will survive and prosper even so.

- There will be a mini-review of the Run 2 Luminosity upgrade projects September 8. Steve will send information to Pushpa/Jeff for their talks. If anything newer is wanted Jim and Bob and others can provide them to Pushpa.

- New task codes are in effect. The CD costs have been moved from the old codes to the new ones. Future effort reporting in CD will have new activities since the H/W and S/W fabrication has been split. All the other activities remained as they were before.

- Study time for commissioning is something we need to discuss some more. Steve has circulated a new proposal based on Jim's original proposal but updating it to use less time overall. It probably needs a little more tuning before we send this to Ron Moore/Pushpa for inclusion in the wbs.

- Study time for commissioning has come up as an issue. We should discuss this internally and give some estimate to Ron Moore within the next week or so. Bob has mentioned that we need to be careful about how much dedicated studies time we need vs. parasitic time. Parasitic time is much easier to get.

## 2. A3/teststand

- Will be covered in the other reports below.

## 3. Reports from L2 Managers

Vince Pavlicek:

- The first timing module had a cold solder joint. Bill Haynes is making jitter measurements trying to understand noise and other issues. Bill continues to add features to allow the timing card to replace the old timing system within a week or two.

- Echotek. Fermilab sent a Recycler version of the Echotek board to Echotek (they did not have one) to help debug the "transient" issue that we see on the new boards but do not see on the Recycler boards. The hypothesis is that this feature is something that was worked out and solved for the Recycler boards and we want to make sure that the same is done for the Tev boards. It may explain some of the behavior that we see on our new boards. We will receive 4 boards of the newest type once they look at a board and are happy with it. Maybe later this week or early next week they will ship them. We have a schematic to the front-end of the Recycler Echotek board. This should help us understand/fix the return loss and front end impedance issues. The channel to channel variation we need to specify. A proposal is to get the Recycler board channel to channel gain variation and ask Echotek to do just as well on the Tevatron boards.

Margaret Votava:

- Found a subtle bug in the way Trace is being used. This has now been fixed and will help in future debugging.

- Luciano, Dehong, et al. are fixing problems as they come up in the teststand and in A3.

- Plan to work on diagnostics device support.

- Do we want turn-by-turn before the shutdown? The answer is yes but it is not the highest priority at this time. There is a question about getting all I's and Q's for a single

BPM simultaneously and this was considered more important to work on.

Tim Kasza:

- Stu has finished the filter board changes. When Ken Treptow returns the changes will be reviewed and will look at getting the 150 boards fabricated.

Brian Hendricks:

- Brian wants device support for Bob West and diagnostics.
- Can support TBT if that becomes a priority before the shutdown. This is probably better integrated on the teststand first in any case.

Rob Kutschke:

- Rob has looked at the data and does not see the 5 discrete phases on the TeV board that he saw on the Recycler board. Bob's hypothesis is that it is either the digitizing clock not locking or something to do with the transient that we see on this board's graychip. The latter is the most likely hypothesis and we need to continue to work to understand this.

- Rob analyzed this morning's shot data and showed some plots (soon to be a AD doc note). He showed the proton and antiproton sum signals, positions of both proton and antiproton and resolutions. Everything looks pretty good (not perfect) but it is clear that the system is doing much of what we are interested in. There are still unanswered questions and some noise, etc. that should be tracked down.

3. Technical Coordinator -- Jim Steimel

- Jim is on vacation this week.

4. AOB.

- Some of the things to work on for the near-term.
  - Diagnostics
  - Online-offline differences in resolution
  - phases
- No meeting Thursday August 12 unless people ask for one. We will continue to work on the A3/teststand issues.
- We will have a meeting Monday August 16 at 11:00. The location

will be FCC1 conference room (the big one). Penthouse is being painted, according to the signup sheet.