

Minutes, 6/01/05 Tevatron BPM Upgrade Meeting  
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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

- Steve reviewed some of the major tasks remaining for the project before we complete. The list is the same as last week. Progress has been made on almost all items and will be detailed in the reports.

- Fix broken stuff
- Marv's wish list
- Complete safe mode
- pbar measurements (in progress)
- calibrations and calibration DB (in progress)
- Diagnostics (docDB 1835)
- Determine and implement overall scale and corrections for higher order terms or off-axis terms
- Documentation.
- Transition to operations (teststands, other items)
- Close out project.
- Party (June 2 at Users Center, 4:30 P.M.)
- Remove old BPM electronics  
(except for a few where the analog electronics are still in use, A0, A4)

- Project closeout will be coordinated by Bakul and includes a list of topics, documents, and capabilities. This list will be finalized and work will begin to complete the closeout hopefully before the end of June. Topics include:

Requirements validation: Verify that the system fulfills requirements specified in the TevBPM requirements document  
Verification of the as-built status of the design  
Fabrication/implementation/installation

Commissioning and decommissioning  
Operations  
Project management  
List and location of documentation and software

## 2. Reports from subproject leaders

Jim Steimel:

- Vladimir asked Jim to put key BPMs into the datalogger and this has been done. A3 (our first installation) remains in the datalogger.
- Jim is working on the diagnostics, the plan, the implementation, and the applications that control it. Should be completed in a couple of weeks.
- Some re-timing will be needed for the E1 house based on the BLM test installation that will go into that house and the requirements for a new fan-out of BSYNC (with the delay that it adds).
- Safe Mode needs to be tested ring-wide.

Mike Martens:

- Mike met with Eliana and Yuri on Tuesday to discuss some results of analysis of the new BPM data. They all report that the scale factor of 26.0 is fine (at least to 1%).
- There are some BPM's that show suspicious behavior in TBT mode and this needs to be tracked down and understood.
- The D0 TBT devices may not be in the correct order and this needs to be checked.
- The list of BPMs that give "bad" measurements was sent out last Wednesday and those still need to be understood/fixed.
- An application (C22) reads proton positions before and after the helix opens, calculates deconvolution coefficients (using Rob's code), downloads the coefficients to the front-ends, does this automatically for each store.
- Mike is looking at the pbar position measurements to see if they make sense. By comparing the pbar position predicted (from p on central orbit and p on helix) he sees 1-2 mm shifts from expected positions. In addition he sees 0.5 mm (maximum) movement of p orbit during pbar loading (may be pbar contamination of p). About a dozen pbar measurements don't look right at all (may be lack of good cancellation coefficients).

- Mike went through the bad BPM list, including some of the new ones coming from the analysis of the data. Hopefully some progress can be made in understanding whether these are real problems (loose cables, swapped cables, bad filters, whatever) or something else.

- Vahid has kicked the beam and saw some strange results in TBT data and Mike will follow up on that.

- There was a short discussion here about the A0 BPMs (still has some old hardware attached) as well as removing old systems (7 done so far) and looking for all the splitters that are in the system (to see if they are correlated with the problem BPMs).

Brian Hendricks:

- W133 work continues to get binary format for TBT.

- Working on Marv's super display page.

Vince Pavlicek:

- Nothing from Lark yet.

- Timing board firmware has been recompiled with new compiler and this needs to be tested. Bill is waiting for Jim for changes to the 53MHz diagnostic signal.

Tim Kasza:

- Bill Barker helped remove the old electronics in some of the houses.

- 16 unstuffed filter boards exist. After some discussion we decided to stuff one of them with the attenuation values good for the short BPMs (so we have two spare boards of that type) and the rest with the nominal attenuation values.

- Cables, crates, MVME, etc. spares are all still in prep. Marv would like a stash of them for his long-term support of the system. This we will have to resolve as part of transition to operations.

Rob Kutschke:

- Marc Mengel is working to get the calibrations into use, first from the database to ACNET devices, then to the front end and in actual use. This will be done step by step and coordinated with Mike.

- Working on pbar measurements. Hope to see some plots/results next week.

- Working on and looking at various cross checks with some possibility of automated alarms for out of tolerance values in the future.

### 3. AOB

- Nothing!