Notes from 11/17/03 and 11/20/03 Tev BPM Hardware discussion. These are kept in BD Doc 906.

Present: Jim Steimel, Vince Pavlicek, Luciano Piccoli,
Dehong Zhang, Brian Chase, Mike Martens, Stephen Wolbers,
Rob Kutschke, Bob Webber, Mark Bowden, Philip Varghese

11/17/03

Main Topics: Time and Schedule estimates for the different solutions being considered.

Jim Steimel:

- Jim present initial preliminary time and cost estimates for the 5 solutions currently being considered. These solutions are the RR Echotek, the DSR board, the Echotek plus changes, the Damper board and the modified DSR board.

The total cost includes one crate for each service building (the number of service buildings with BPM readout needs to be accurately determined), 2 teststand crates, timing, calibration and BLM hardware, slot0 boards, and an appropriate number of channels to cover the entire system. This should be 960 channels + spares. We agreed on 15% spares.

An updated spreadsheet with all of the above information will be presented Monday, November 24.

Lebedev Effect:

- There was a discussion of the effect that Valeri Lebedev has been worrying about in the single turn and turn-by-turn measurements. In the end we came to no conclusion although later Bob Webber believes that the proper value can be achieved with the hardware and processing solutions that we are considering at this time.

11/20/03

Main Topics: Scheduling and coordinating measurements using the Tevatron beam, updates on the DSR board suitability for the Tev BPMs.

- We had a discussion of what we would like to measure, what instruments we want to use, and when we would like to do it. The plan, loosely, is to measure the response of the pbar end of the Tev BPM when protons only are in the accelerator. We will use at least a scope (writing CDs) and a damper board (writing to a PC disk). Jim Steimel has made the request for the time and has asked for 36x0 store and 8-10 points in the plane of the bpm and 4-5 out of the plane. Everyone involved should keep in contact so that the measurements can be made whenever the accelerator is ready to provide the beam.

- It was mentioned that the BPM's in the low Beta quads are "half-length" compared to the rest. We need to document that and capture that document somewhere so we can refer to it when needed.

- Philip Varghese came and gave a nice talk about the DSR and how we might use it to take turn-by-turn data and in fact how to use the timing capabilities of the board. He mentioned that the board can go to 1.5 MHz and possibly even to 2 MHz out of the digital down converters. This would probably require a small modification to the board. Brian Chase came a little later to the meeting (after moving antiprotons from the antiproton source to the Main Injector) and we had some more discussion of the capability of the DSR board.

- Finally, we had a discussion of the spread of frequencies. This was subsequently written up and is available and Beams Doc 920.

We will next meet on Monday, November 24, 11:00 A.M., Penthouse.