DRAFT for comment

Meeting Minutes: Booster BLM and BPM Front-End Processing Issues

1:30pm Monday, September 27, 2010
BTE Cooler Meeting Room

In Attendance:

Dennis Nicklaus, AD/Controls
Charlie Briegel, AD/Controls
Sharon Lackey, AD/Controls
Robert Goodwin, AD/Controls
Mike Sliczniak, AD/Controls
Bill Pellico, AD/Proton Source
Todd Sullivan, AD/Proton Source

Discussion:

Beam Loss Monitors

1. Bob Goodwin provided a brief background on the previous front-end programming effort made to implement the new BLM digitizers in the Booster. Craig Drennan gave a brief description of the different types of integration sums that the front-end software would need to produce from the digitized BLM data, which had been written about in the project specification document.
2. Bill Pellico and Todd Sullivan described Booster's requirement to be able to plot BLM data for multiple Booster cycles on a Fast-Time Plot, which was something that Bob Goodwin's IRM, front-end code has not been written to include. This feature is currently be performed through MADC digitized BLM signals. If the new BLM Digitizer cards are used, there would not be a separate analog signal to send to the MADC's.
3. Mike Sliczniak and Bob Goodwin discussed the effort involved to build buffers and new code to be able to deliver the data necessary to support BLM Fast-Time plots of multiple Booster cycles without having to rewrite significant portions of their FTP code. Mike and Bob said that they would investigate how this might be done.
4. Bill Pellico suggested that 15 Booster cycles would be the maximum number they would want to see on a plot.

Beam Position Monitors

5. Dennis Nicklaus started that there had been some talk about changing the BPM electronics in the Booster. Bill Pellico stated that it was not likely that AD/Instrumentation would be putting in anything new this year or next, but likely within 3 to 5 years.

6. Charlie Breigel and Sharon Lackey stated that they had been considering how the front-end programs for the BPM Turn-by-Turn digitizers might be extended to support Snap-Shot plotting of sub-sampled (re-sampled at a lower rate) BPM data. Bill Pellico stated that he did not know that this could be done and now has some interest in being able to do this.
7. Craig Drennan briefly described the current effort to tap off the BPM position voltages at the input to the Turn-by-Turn digitizers to be digitized also by HRM digitizers that already have software support for Snap-Shot plotting. He described that installation plans and new cable assemblies had been produced and were ready for this effort. We are currently waiting for HRM front-end software to be completed and the HRM systems tested and provided for installation into the racks.
8. It was mentioned that Peter Prieto from AD/Instrumentation had been asking about BPM specifications, specific to Booster for the possible installation of AD/Instrumentations new, standard BPM electronics. The new BPM electronics employ digital methods for demodulating the BPM signals and would not longer need the analog demodulators used now. It is expected that the new system would be programmed to provide both Turn-by-Turn BPM position information as well as Snap-Shot plot type services.
9. Craig Drennan asked whether it might be more efficient to keep the current electronics configuration by replacing the analog demodulators and the Turn-by -Turn digitizers with direct replacements. Sharon Lackey pointed out that we would also need replacements for the count to 84 Digitizer Trigger boxes and the RF demodulator test electronics. Sharon also suggested that AD/Instrumentation would most likely prefer to install the new system which is their standard BPM system.