

g2p/GEp Beam Transport Meeting Minutes

Attendees: J.P. Chen, E. Folts, A. Gavalya, B. Dillon-Townes, K. Allada, D. Williams, T. Michalski, P. Kjeldsen, K. Mahoney, A. Camsonne, Y. Roblin, R. Lauzé

The following is a summary of issues discussed during the g2p/gep Beam Transport Meeting:

- A discussion was held regarding the need for harps on the articulating arm. It was determined that 1 harp is required per BPM. Therefore, 2 harps are required. There is an action to review if 2 harps will fit on the short articulating arm due to overall length constraints. The harps need to be placed directly adjacent to the BPM to maximize the effectiveness of the calibration.
- We need to assess the FZ magnet power supply capabilities as there is a desire to reverse polarity.
- A list of all items required to support the beamline has been identified (as far as we can tell at the moment). It is included as a tab in the requirements document available on the g2p webpage under the Beam Transport Meeting Minutes. This action is considered closed.
- Action item 9 needs to be clarified that it is the input power requirements that is needed by Ed.
- There is still an open issue with the thicknesses of some targets. JP will transfer the latest information on targets to Kelly Mahoney.
- Yves will determine the design setpoint for current for each FZ magnet PS for each energy run. After that, a tolerance will have to be defined. The key will be to make sure the tolerance window is adequate while not creating unnecessary FSD trips. Final settings will be determined during commissioning of the system.
- It was reported that Simon is checking to see what the output current monitoring capabilities are for the two FZ PSs.
- A discussion was held on the need for monitoring the target. It was felt that monitoring temperature may not be fast enough. Need to address two concerns – 1) how can we assess if a high current beam is on the target (significantly above 130 nA) and 2) how do we make sure the beam is on the dump. Need to get Accelerator Ops to weigh in on this as well.
- George Lahti will be the person responsible for getting the SANE screens delivered to Henry.
- JP stated that there is a desire to get the slow raster as far away from the target as possible. Therefore, the slow raster will be positioned before the calorimeter on the beamline. Ed asked the question “is the SR beam tube adequate for the beam size at that location. Everyone expects that it will be due to the proximity to the rastering point.
- The topic of a hole in the center of the rastered beam was brought up. This came from a statement at the collaboration meeting of last Thursday. Issue was stated to be a result of the waveform generators, not the SW. Need to look at this.
- General statements:
 - Need feedback on the Experimental Definition Drawing
 - Need feedback on the Design Requirements Document
 - Need schedule of major milestones several groups

STATUS:

OPTICS:

- Nothing new to report.

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MAGNETS:

- The corrector magnets will be BDs, confirmed by both Yves and Jay Benesch.

BEAM TRANSPORT:

- The Experimental Definition Drawing was circulated on Wednesday, September, 29. We need feedback in order to lock down the design and reduce risk in changes at a later time – cost and schedule impacts on late breaking changes.
- Will look at the 2 harp scenario.
- Asked the question – what is the order of the test plan? May impact the resource needs on alignment of runs. Need to look at running the Compton or not. Also will depend on Hall C running – can we get beam we need (1.1 and 1.6 GeV).

RAD CON:

- Looking at dump designs. Potential for neutron detectors to monitor energy at the LC dump.

SOFTWARE:

- Nothing new to report

VACUUM:

- No status update

INSTALLATION:

- No status update

ALIGNMENT:

- No status update

EES – I&C:

- The stripline BPM testing is on for this week. Should have data by Friday.
- The calorimeter control chassis is going to be more of a challenge due to undocumented rework (cutting of connectors and wiring in new ones, with no drawings available). Trying to track down the documentation in order to get it working.

EES – OPS:

- Need to Accelerator Ops involved in LC dump assessment.
- Desire to get an update on the BPM from John Musson. Invite him to present on Tuesday AM.
- The FZ2 magnet PS in Hall C does have output current monitoring. Need to know the scale for MPS. Don't know if the FZ1 magnet PS has it or not. Simon is checking.

EES – SSG:

- Need to know scale for the FZ magnet PS current monitoring.

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- Need design setpoints for FZ magnet current monitoring.

TARGET/DUMP DESIGN ACTIVITIES:

- Finalizing the windows. Need to understand viewer needs for dump. Looking at placing septa and dump inside He bag.

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Action Items:

Action Item #	Date Added	Action Item	Responsible Individual	Due Date	Date Closed
6	9/14/10	We need to get commitments for the hardware required for g2p. Need list of all components, owners, nomenclature.	J.P. Chen T. Michalski	10/5/10	10/5/10
9	9/28/10	Power requirements for FZ magnets to Ed Folts.	S. Wood	10/8/10	
10	9/28/10	Get a list of targets to Kelly Mahoney. The same info sent to RADCON	J.P. Chen	10/8/10	
11	9/28/10	Define the need and settings for chicane magnet current monitoring.	Y. Roblin	10/19/10	
12	9/28/10	Define if instrumentation is required for the low current dump. If so, what should be monitored?	TBD	10/26/10	
13	9/28/10	Get SANE target screens to Henry Robertson.	G. Lahti	10/19/10	
14	10/5/10	Need to assess if two harps will fit on the articulating arm.	L. Dillon-Townes	10/12/10	
15	10/5/10	What is the actual quantity and order for the runs planned for the test plan?	J.P. Chen	10/12/10	
16	10/5/10	Understand why there is a hole in the center of the rastered beam that comes from the faster raster/slow raster combination. Stated to be a waveform generator issue. Clarify this. If not HW, then probably SW?	C. Cuevas B. Gunning	10/26/10	

Design Decisions:

Date	Decision Item
8/31/10	The transport line exiting the FZ2 will have no vacuum connection to the target chamber. A beryllium window will terminate that line.
8/31/10	M20 BPM's were decided to be used on the transport line exiting the FZ2.
9/14/10	The Target will only be set at 80° and 90°, not 70°, per Al Gavalya.
9/14/10	The gap between the beam tube end and the target window was discussed. It should be minimized – consider 1 cm as a maximum gap. Re-opened during 9/21/10 meeting – look at using helium bag.
9/30/10	The requirement for BPM accuracy is 0.1mm – per discussion at BPM requirements meeting and subsequent analysis/e-mail from K. Allada.