

g2p/GEp Beam Transport Meeting Minutes

Attendees: T. Michalski, P. Kjeldsen, E. Folts, R. Lauzé, A. Camsonne, D. Williams, JP Chen, Z. (Vick) Chen, L. Dillon-Townes, P. Degtiarenko, K. Allada, A. Gavalya, C. Curtis, A. Saha, S. Yang, E. Forman

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

- We continue to sort out the details regarding the FZ magnet PSs
 - Ron identified an existing “stand” for holding and protecting the Al magnet. It is currently in the BSY. Clarified approval from B-Team and Steve Wood. Need to return it in the state we get it.
 - Joe Beaufait may not be able to get the PSs out of Hall C due to using 1 and the 2nd has items mounted to it. Not a priority for Hall C before the 6 month SAD. Very important for g2p.
 - JP has spoken with Mark Jones of Hall C to elevate our concerns about getting access to the PSs. FZ2 PS is seen as a higher risk as performance demand exceeds rated performance, but we have been told that it operates to 60V and 500A. Next step is to elevate to Steve Wood.
 - Set a goal to get our hands on the PS by 4/15.
 - Polarity switch identified. Due to cost, the plan is to procure the 500A version. Revised pricing for remote control - \$4180.12.
- Butch stated we need to make sure we have the right straps on the FZ.
- Eric stated that operations needs to see the beam on the viewer for the LC dump. Faster response than thermocouples. Still need to evaluate thermal. Pavel is not the guy for this.
- The Al magnet hasn't been measured yet.
- 6MSD planning and scheduling being reviewed for availability of resources. Resource leveling in process. So far, no show stoppers.

STATUS:

OPTICS:

- Yves is updating orbits for different energy and target positions (location and angles).

MAGNETS:

- Nothing new to report

BEAM TRANSPORT:

- Region 1 – PS shielding box – it is not “hot” and can be bolted together (with rework) – follow up meeting to discuss filtering – don't need HEPA, better filtering means less contamination in the event of having to access and repair.
- Region 2 – nothing new to report
- Region 3 – FZ1 stand design – bids due this week (preliminary info is delivery in just over a month). FZ2 stand – ready for checking, Wednesday. Stabilizing arms (stanchions) are needed. Looking for how to tie in to stand vs. floor. Arms need to move with the stand to prevent overstressing the bellows.
- Material Here: large bellows (qty 3), viewer cross
- Harps –review in process, Arne to check for application with 12 GeV (superharp)

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RAD CON:

- Working on dose calculation. LC Dump – use thermocouples and ion chambers. Pavel to review preliminary placement of ion chambers with Kelly Mahoney.

SOFTWARE:

- Nothing new to report

VACUUM:

- No status update

INSTALLATION:

- No status update

ALIGNMENT:

- Nothing new to report

EES – I&C:

- Nothing new to report – no status on BCM and BPM testing. Plans are in place, awaiting Beam Study time.

EES – OPS:

- Nothing new to report

EES – SSG:

- Safety systems and MPS review on Monday. Actions added to these meeting minutes.

TARGET/DUMP DESIGN ACTIVITIES:

- Looking at target chamber bottom seal – rubber seal suspect for radiation. Issue with collaborators not being able to get certified welding performed. Limits the work they can do.

PHYSICS

- Readiness review tentatively set for April 22.

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Action Items:

Action Item #	Date Added	Action Item	Responsible Individual	Due Date	Date Closed
11	9/28/10	Define the settings for chicane magnet current monitoring.	Y. Roblin	By 3/11	
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	TBD	
23	11/16/10	Verify polarity switch for FZ magnets. We have one spare in house if needed.	R. Lauzé	12/30/10	
31	1/4/11	Procure, build, and test 14 Transport style BPM RF Modules CLOSING ISSUE – will track progress on project schedule	D. Williams / O. Garza	9/14/11	3/15/11
35	1/4/11	BCM testing at low current, w/ helicity, in January.	J. Musson / A. Camsonne	3/?/11	
36	1/11/11	BPM testing with new electronics in North Linac	J. Musson / D. Willaims	TBD	
37	2/1/11	Resolve open question on FZ magnet power supplies.	V. Chen	2/15/11	
41	3/14/11	Verify jacket for upside down girder BCM fits.	B. Dillon- Townes	3/22/11	
42	3/14/11	Need a decision on low current dump – thermal threshold interlock? How warm will the LC dump get? – Decision to add thermocouples – Alan G will add. Will have signal for MPS/FSD.	TBD	TBD	
43	3/14/11	What is the required hysteresis required for the FZ1 and FZ2 magnets? What is the range of required current?	Y. Roblin	5/15/11	

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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. Will use helium bag – issue closed.
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.
12/6/10	Use 5.5" M15 antenna style BPMs in articulating arm!
12/6/10	JP committed to a 2 cm raster, if need be, to accommodate threading the beam through the articulating arm.
1/11/11	Decision to use harps in tune mode rather than low current.