

g2p/GEp Beam Transport Meeting Minutes

Attendees: K. Allada, P. Kjeldsen, R. Lauzé, A. Camsonne, D. Williams, P. Degtiarenko, Y. Roblin, Al Gavalya

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

- Yves asked whether the field map for FZ magnet will accommodate 8kGauss? And do we have 300A power supply?
- Butch send out a field map for FZ and will confirm with S.Higgins to see if this was the same map that was used before(Hall-C?)
- According to the spreadsheet Butch sent out, 500amps power supply is needed to produce 8kG field
- Verify encoder/wire size for harps
- Several drawings exists for Harp. Need to get the correct one.
- The goal is to get VME based Harp controller
- Yves asked whether we have capability to stop harp scan at any stage ?
- Item 26 is closed.
- Item 27 is closed. Wire diameter is 20 micron, per Omar.
- Item 28 is closed. Arun has been invited to the meetings and attended the Instrumentation Meeting last week.
- Item 29 - Pam has asked that we set up 2 separate meetings for the BPM and BCM to assess impacts to SW. She also asked that George Lahti be invited for the BCM and Brian Bevins be invited for the BPM. Since I will be out of the office the next 2 weeks, I have asked Dave Williams to orchestrate these with John, Pam, and others.
- Item 30 – have updated calculations and analysis by John Musson, presented at the Instrumentation Meeting last week. Plan now is to do testing on the BPM electronics (north linac) and BCM (Hall A) to verify capability. This item is closed with new items for the testing.
- Item 31 – we have received a quote from Omar, presented to JP. Need to determine from which budget the \$ will come. Once defined, need to get procurement going.
- Item 32 – Harps will be used in Tune Mode rather than low current. Therefore, no additional actions are required to support this.
- Item 33 – Cost estimate have been received – item closed.
- Item 34 – Arne is trying to locate the SW. Once found, he will turn over to Pam. Sue will be doing updates.
- Item 35 – BCM testing in January in Hall A. Dave to get an update from John. JP wants to make sure we use the actual BCM cavity rather than the HAPPEX cavity.
- Added Item 36 to track BPM testing in North Linac.
- Tim will be at USPAS for the next 2 weeks. Butch has “volunteered” to run the meetings in his absence. Thanks Butch!

STATUS:

OPTICS:

- No status update

MAGNETS:

- No status update

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BEAM TRANSPORT:

- Region 1 and Region 2 drawings are complete and will be distributed to the team.
- The corrector girder for Region 2 (upside down girder) has been received and will be sent to the Vacuum Lab.
- There is a delay in getting the vacuum chambers for the FZ magnets. Butch to verify delivery date. The plan is to have Magnet Measurement swap out the vacuum chambers and then remeasure the magnets. Ed volunteered to do the rework, if needed, to free up Magnet Measurement.
- The Region 1 stand is due in February. Awaiting actual date. The plan is to assess it at the supplier prior to receiving it.
- Still need the list of items for Collaborators.
- Still need input to the g2p schedule.

RAD CON:

- Mentioned that the removable faceplate for the dump has been eliminated. Pavel would like to see perhaps the first inch of the dump to be removable due to activation/radiation issues (ALARA). JP will discuss this at the target design meeting.
- Working with AI for a possible design of removable plates at the dump
- Activated plates can be replaced with new ones. It also gives valuable data for activation studies.
- Working on different materials for the plates

SOFTWARE:

- Pam got the SW from Arne. Need to get the Calorimeter Controller from I&C.

VACUUM:

- No status update

INSTALLATION:

- No status update

ALIGNMENT:

- Chris Curtis made aware that we may have to survey the Harp wire for the required positional accuracy. He requested that we add a fiducial on the harp housing, if we are building new ones.

EES – I&C:

- The Calorimeter Chassis is getting a PC104 alteration to make it EPICS compatible. It should be complete by the end of the week.
- Pete Francis is getting ready to order Transport module material; needs account number.
- Dave will get a plan from John on the BPM/BCM testing schedule.

EES – OPS:

- Need beamline element drawing and region drawings. When can we get these from the ME Group?

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EES – SSG:

- No status update. I did check with Kelly and he has what he needs for now. He is tracking progress by the meeting minutes.

TARGET/DUMP DESIGN ACTIVITIES:

- Working with alignment group

PHYSICS

- Collaboration meeting being set up for the February 4th.

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	
12	9/28/10	Define if instrumentation is required for the low current dump. If so, what should be monitored?	TBD	TRACK to close	
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	
24	11/23/10	Get FZ magnets from Physics Storage	T. Michalski	1/15/11	
27	12/6/10	Determine wire size for harps.	D. Williams/O. Garza	TBD	1/11/11
28	12/6/10	Get Arun Saha involved in BCM electronics and monitoring.	D. Williams/J. Musson	TBD	1/11/11
29	12/6/10	Set up a topic specific meeting on BPM w/ new electronics – for SW	T. Michalski D. Williams	TBD	
30	12/6/10	Update analysis/calculations on BPM and new electronics to insure we can meet the requirements.	J. Musson/D. Williams	TBD	1/11/11
31	1/4/11	Procure, build, and test 14 Transport style BPM RF Modules	D. Williams / O. Garza	5/14/11	
32	1/4/11	Decision on harp usage – Tune Mode or Low Current	JP Chen	1/11/11	1/11/11
33	1/4/11	Cost estimates for BPM and harp materials and labor – to Tim	O. Garza	1/11/11	1/11/11
34	1/4/11	Calorimeter SW from Arne.	A. Freyberger	2/14/11	

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35	1/4/11	BCM testing at low current, w/ helicity, in January.	J. Musson / O. Garza	Answer by 1/11/11	
36	1/11/11	BPM testing with new electronics and stripline BPM in North Linac	J. Musson / D. Willaims	TBD	

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.