g2p/GEp Beam Transport Meeting Minutes

Attendees: T. Michalski, P. Kjeldsen, E. Folts, R. Lauzé, A. Camsonne, D. Williams, T. Dela Cruz, JP Chen, Z. (Vick) Chen, L. Dillon-Townes, H. Smith, P. Degtiarenko

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
  - Need the flow rate of water for each PS – Vick Chen
  - Need additional load on the FZ1 PS; looking at using BB magnet coils – Simon Wood
  - The additional load may need to be mounted/supported; make Butch aware.
  - Joe Beaufait does not have adequate cable to support wiring the PSs. Need to get on order – Vick.
  - Need a polarity switch for FZ2 PS. Define PN and supplier and get to Tim/JP – Vick
- Action Item 24 – Complete – they are in Test Lab (old mag meas area)
- Action Item 31 – Schedule from EESICS states that plan to build is September. EESSUP will build some sooner when material arrives and have available time.
- Action Item 35 – Alex reported that a test plan has been developed with 3 parts. Need to define time to run.
- Action Item 38 – Complete – e-mail sent to Arne.
- Action Item 40 – Complete – Vick sent e-mail w/ details on 3/1 (after the meeting)
- FYI: Here are some detailed info about the 2 power supplies for the FZ magnets.

DC Output		
power	19.2kW	12.8kW
voltage	40V	40V
current	480A	320A
AC main input	60Hz	60Hz
power	32.4kVA	18.5kVA
voltage	480V	480V
current	39A	22.2A
Water Cooling		
pressure drop	3bar	3bar
flow rate	6.55l/min	11.7l/min
max inlet temperature	35 degrees C	35 degrees C
temperatur rise	10 degrees C	10 degrees C
weight	520 kg	340 kg
manufacture year	1996	1997

STATUS:

OPTICS:

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

MAGNETS:

- Nothing new to report

BEAM TRANSPORT:

- Region 1 – Shirley is looking at FR/SR PS shielding
- Region 2 – nothing new to report
- Region 3 – FZ1 stand design is in final review, out for bid this week(?). FZ2 stand – designing, Shirley analyzing. When we get a list of parts needed for positioning viewer and articulating arm, let's review for getting from collaborators.
- Harps – preparing to bid/order all but flag

RAD CON:

- Nothing new to report

SOFTWARE:

- Nothing new to report

VACUUM:

- No status update

INSTALLATION:

- No status update

ALIGNMENT:

- No status update

EES – I&C:

- Nothing additional to what has been reported already.

EES – OPS:

- PS cabling – get ordered (PR# 302593) - $7k.

EES – SSG:

- Set up meeting to review safety systems on g2p.

TARGET/DUMP DESIGN ACTIVITIES:

- No status update

PHYSICS

- Define potential components to collaborators (Region 3 – FZ2 mechanism, articulating arm positioning, viewer positioning)

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	
24	11/23/10	Get FZ magnets from Physics Storage	T. Michalski / N. Wilson	3/1/11	3/1/11
31	1/4/11	Procure, build, and test 14 Transport style BPM RF Modules	D. Williams / O. Garza	9/14/11	
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 and stripline BPM 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	
38	2/15/11	Ops needs written statement that SR won't be MCC controlled.	JP Chen	3/15/11	3/1/11
39	2/15/11	Tolerance on FZ current.	Y. Roblin	TBD	
40	2/22/11	Need to know the water needs for the FZ magnet PSs	V. Chen	3/8/11	3/1/11

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.