

# g2p/GEp Beam Transport Meeting Minutes

**Attendees:** T. Michalski, C. Curtis, D. Williams, P. Kjeldsen, JP Chen, A. Camsonne, L. Dillon-Townes, G. Kharashvili, K. Slifer, J. Heckman, R. Taylor, M. Weihl, M. Ahmad, A. Freyberger, Z. Chen, S. Wood, Y. Roblin

The following is a summary of issues discussed during the g2p/GEp Beam Transport Meeting. The format has changed slightly as we are focusing on the punch list of items required to be prepared for beamline commissioning. Target date for completion is the end of the day on Friday, 12/9/11.

<u>System</u>	<u>Activity</u>	<u>Status</u>	<u>Owner</u>	<u>Comments</u>
<b>REGION 1</b>				
BCM	Build Receiver	Not ready	Chris Norris/Keith Cole	Same device as for the BPM - 4 channel receiver 11/22 – D. Williams reports using 2 channel (same as Qweak) versus 4 channel. Need to confirm.
BCM	Test Receiver	Not ready	Chris Norris/Keith Cole	
BCM	Old BCM Receiver Hardware Removal	Not ready	Chris Norris/Keith Cole	
BCM	New BCM Receiver Hardware Installation	Not ready	Chris Norris/Keith Cole	
BCM	Finalize BCM Software / EPICS Screens	Not ready	Pam Kjeldsen / George Lahti	
BCM	Field Testing Hardware & Software	Not ready	Chris Norris/Keith Cole	
BCM	BCM data to Hall A DAQ	Not ready	Chris Norris/Keith Cole	11/22 – confirm it is DAQ only, with monitoring by ops via EPICS (no tune to the BCM)
BCM	BCM Final System Checkout	Not ready	Chris Norris/Keith Cole	
BCM	Temperature Monitoring	Not ready	Pam Kjeldsen	11/29 – Should be able to take the SW from Hall B and apply it to Hall A
Slow Raster	Close up the SR bunker	READY	Neil Wilson	11/30 – Complete per Ricky Taylor
Slow Raster	Install and test the blower	READY	Neil Wilson	11/30 – Complete per Ricky Taylor
Slow Raster	Align the fans to the shroud	READY	Neil Wilson	11/30 – Complete per Ricky Taylor
Slow Raster	Check out the cooling fans	Not ready	Neil Wilson	
Slow Raster	Hot Checkout	Not ready	Bill Gunning	
Slow Raster	OSP for Hall A	Not ready	Chris Cuevas	
Slow Raster	Beacon????	Not ready	Bill Gunning	There is a sign on the shroud which mentions a beacon. No beacon is installed. 11/22 – Need to confirm with Bill Gunning. 11/30 – Was a Hall C requirement. Need to verify now if Hall A requires beacons on this magnet pair. Note that there is no beacon on fast raster.

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<b>Slow Raster</b>	Field map of SR to Yves Roblin	<b>Not ready</b>	Alexandre Camsonne	11/29 – Alex reported that this has been sent to Yves. No confirmation yet if this is all that is required.
<b>Calorimeter</b>	Re-instating the FSD interlocks	<b>READY</b>	Rich Wright / Tommy Michaelides	11/22 - Get Scott Windham involved. Set up a meeting to review all FSD/Interlocks – action Tim Michalski 11/29 – Interlocks defined at today’s meeting.
<b>Calorimeter</b>	Remove PS used for testing	<b>Not ready</b>	Mahmoud Ahmad	
<b>Calorimeter</b>	Calibrating the F-cup circuit	<b>Not ready</b>	Mahmoud Ahmad	
<b>Calorimeter</b>	Writing beam test plans	<b>Not ready</b>	Mahmoud Ahmad	11/22 – Will be complete for 12/9.
<b>Calorimeter</b>	Executing beam tests	<b>READY – post beam startup</b>	Mahmoud Ahmad	11/22 - Will occur post 12/9. No further testing is required prior to start of beam.
<b>Vacuum</b>	Vacuum Checkout	<b>Not ready</b>	John Heckman	
<b>Alignment</b>	2B Alignment	<b>Not ready</b>	Chris Curtis	11/22 – All 2B alignment to be done at one time.
<b>REGION 2</b>				
<b>Beam Pipe</b>	Install Lead on new Beam Pipe	<b>READY</b>	Ed Folts	
<b>Vacuum I&amp;C</b>	Install Vacuum Instrumentation	<b>Not ready</b>	Dave Williams / Rick Gonzales	
<b>Vacuum I&amp;C</b>	Final Vacuum Instrumentation Checkout	<b>Not ready</b>	Dave Williams / Rick Gonzales	
<b>Superharp</b>	Install Harp Controller	<b>READY</b>	Tony Dela Cruz	
<b>Superharp</b>	Field Testing HW and SW for Harp Controller	<b>Not ready</b>	Tony Dela Cruz	
<b>Superharp</b>	Final Harp System Checkout	<b>Not ready</b>	Tony Dela Cruz	
<b>BD Magnets</b>	Hot Checkout	<b>Not ready</b>	Simon Wood	11/22 – Need to perform polarity check.
<b>BLM</b>	Hot Checkout	<b>Not ready</b>	Rich Wright / Tommy Michaelides	
<b>Vacuum</b>	Vacuum Checkout	<b>Not ready</b>	John Heckman	

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<b>Alignment</b>	2B Alignment	<b>Not ready</b>	Chris Curtis	
<b>REGION 3</b>				
<b>Chicane</b>	Install Arms and Supports	<b>READY</b>	Neil Wilson	11/22 – 1 more hole to drill. Arms and support should be up by 11/23. 11/23 - Complete
<b>Viewer</b>	Install YAG crystal	<b>READY</b>	Tony Dela Cruz	11/22 – Must be done prior to installing girder in hall.
<b>Chicane</b>	Install Viewer Girder	<b>READY</b>	Neil Wilson	11/22 – Awaiting camera holder – due 11/28. Awaiting flange from MS. 11/28 - Complete
<b>Superharp</b>	Restrung harp fork	<b>READY</b>	Tony Dela Cruz	11/22 – John H. to get harp delivered back to Tony. 11/28 – Harp returned and should be restrung. Verify complete.
<b>Chicane</b>	Assemble Diagnostics Girder	<b>Not ready</b>	John Heckman	11/22 – Harp needs to be restrung. 11/30 – Window, gaskets, harp, and flange delivered to vacuum lab. Fiducialization of harp is underway.
<b>Chicane</b>	Pre-align Diagnostics Girder	<b>Not ready</b>	Chris Curtis	
<b>Chicane</b>	Install Diagnostics Girder	<b>Not ready</b>	Neil Wilson	
<b>Chicane</b>	Camera Holder	<b>READY</b>	Butch Dillon-Townes	11/22 – Due 11/28.
<b>Chicane</b>	Vacuum Window	<b>READY</b>	Butch Dillon-Townes	11/22 – Due 11/28.
<b>Alignment</b>	2A Alignment on Straight Through position	<b>Not ready</b>	Chris Curtis	Alignment at other positions will be done later. 11/22 – will be done after girders are installed, before vacuum work.
<b>Vacuum</b>	Install bellows and vacuum hookup	<b>Not ready</b>	John Heckman	
<b>Vacuum</b>	Pump Down Chicane	<b>Not ready</b>	John Heckman	
<b>Alignment</b>	2B Alignment on Straight Through position	<b>Not ready</b>	Chris Curtis	Alignment at other positions will be done later.
<b>Chicane</b>	Straight through spacers	<b>Not ready</b>	Butch Dillon-Townes	
<b>Chicane</b>	TOSP	<b>Not ready</b>	Butch Dillon-Townes	No required for commissioning run as the chicane will not be operational – straight through only.
<b>Viewer</b>	Install Viewer System w/ Camera	<b>Not ready</b>	Tony Dela Cruz	
<b>Viewer</b>	Field Testing HW and SW for Viewer	<b>Not ready</b>	Tony Dela Cruz	
<b>Viewer</b>	Final Viewer System Checkout	<b>Not ready</b>	Tony Dela Cruz	
<b>BPM – 4 Ch</b>	Build Receiver	<b>Not ready</b>	Chris Norris/Keith Cole	11/22 – This activity is for the 4 channel receiver
<b>BPM – 4 Ch</b>	Test Receiver	<b>Not ready</b>	Chris Norris/Keith Cole	11/22 – This activity is for the 4 channel receiver
<b>BPM – 4 Ch</b>	Finalize BPM Software / EPICS	<b>Not ready</b>	Pam Kjeldsen / Brian Bevins	11/22 – This activity is expected to take 3 weeks. Therefore, it was

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	Screens			decided that we can use the SEE Transport electronics for the commissioning.
<b>BPM – SEE</b>	Verify we have spare SEE Transport modules	<b>Not ready</b>	Dave Williams/Pete Francis	11/22 – Need two channels for 2 BPMs on diagnostics girder.
<b>BPM</b>	Old BPM Receiver Hardware Removal	<b>Not ready</b>	Pete Francis	
<b>BPM – SEE</b>	New BPM Receiver Hardware Installation	<b>Not ready</b>	Pete Francis	11/28 – Info on BPM nomenclature sent to Pete.
<b>BPM – SEE</b>	Finalize BPM Software / EPICS Screens	<b>Not ready</b>	Pam Kjeldsen / Brian Bevins	11/22 – This should take minimal effort as it is consistent with previous methods. Using M15 antenna style BPMs.
<b>BPM – SEE</b>	Field Testing Hardware & Software	<b>Not ready</b>	Pete Francis	
<b>BPM – SEE</b>	BPM data to Hall A DAQ	<b>Not ready</b>	Pete Francis	
<b>BPM - SEE</b>	BPM Final System Checkout	<b>Not ready</b>	Pete Francis	
<b>FZ Magnets</b>	Install Klixon on AI magnet	<b>Not ready</b>	Simon Wood	
<b>FZ Magnets</b>	Verify FZ polarity	<b>Not ready</b>	Simon Wood	
<b>FZ Magnets</b>	Run full power tests on the FZ magnets	<b>Not ready</b>	Vick Chen / Simon Wood	
<b>FZ Magnets</b>	Install signage for the magnets and power supplies	<b>READY</b>	Vick Chen	
<b>FZ Magnets</b>	Install beacon on AI Magnet	<b>Not ready</b>	Ed Folts	
<b><u>HALL A</u></b>				
<b>PSS</b>	Update FSD Screens	<b>Not ready</b>	Rich Wright/George Lahti	11/29 – Meeting held to finalize all input for the FSD screens.
<b>PSS</b>	Install Ion Chambers	<b>Not ready</b>	Tommy Michaelides	Cables pulled but not terminated. 11/22 – Currently short 2 ion chambers – lent to Hall C. Will refurbish 2 ion chambers from Hall C dump for use in Hall A on g2p.
<b>PSS</b>	Hot Checkout - No Beam	<b>Not ready</b>	Rich Wright / Tommy Michaelides	
<b>PSS</b>	Update Gold Masks	<b>Not ready</b>	Rich Wright / Tommy Michaelides	
<b>PSS</b>	Update MPS Documentation	<b>Not ready</b>	Rich Wright / Tommy Michaelides	
<b>PSS</b>	FSD for Target Beam Pipe	<b>Not ready</b>	Rich Wright	Verify that this is not a pressure system (<15 psi)
<b>PSS</b>	Implement all Interlocks	<b>Not ready</b>	Rich Wright	Rich has a separate list for g2p/Hall A. 11/22 – No radiator, Sniffer, UPS SW Crash required for g2p. Add SR, target pressure, target mechanism FSD. No target, local dump, active chicane for g2p beamline commissioning in December; will need for experiment after target is installed.

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<b>Hall Dump Viewer</b>	Verify that the viewer is functional	READY	Tony Dela Cruz	
<b>Compton</b>	Hot checkout	READY	Alexandre Camsonne	No detector in place, therefore it will not be used during g2p.
<b>CASA</b>	Commissioning Plan	Not ready	Yves Roblin / Eric Forman	
<b>Septum Magnet/PS</b>	OSP	READY	Jack Segal	11/29 – Complete and approved. Need to attach to PS.
<b>Physics</b>	Final Run Plan	Not ready	JP Chen / Karl Slifer	Will be running at 0, 90, and 7 degrees target angle.
<b>Physics</b>	Commissioning OSP	READY	JP Chen / Karl Slifer	Written and signed. 11/30 – need a copy for operations
<b>Accelerator Operations</b>	Copies of COO, RSAD, ESAD for signoff by Ops	Not ready	Tim Michalski/JP Chen/Karl Slifer	Added 11/30
<b>Accelerator Operations</b>	Updated target list and restrictions	Not ready	Tim Michalski/JP Chen/Karl Slifer	Added 11/30
<b>Accelerator Operations</b>	A list of any beamline components NOT controlled or monitored by ops.	Not ready	Tim Michalski/JP Chen	Added 11/30
<b>Accelerator Operations</b>	Spokesperson to give a short talk to the operations group meeting.	Not ready	JP Chen/Karl Slifer	Added 11/30 – need to do 2x – Wednesdays 9-11
<b>Accelerator Operations</b>	Arrange to do a tour of the hall so the operations staff could have a look at the changes to the hall prior to the start of beam operations.	Not ready	Tim Michalski/JP Chen	Added 11/30 -(perhaps in conjunction with the talk)

Other Notes:

- The calorimeter can take up to between 1 and 2 microamps. There should be no issue with levels used for commissioning.
- The calorimeter will require 3 hours to cool down between tests.

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- The FZ1 is expected to perform between 300 G and 8 kG. Vick verified that Bill Merz has reviewed the PS selection and it will function acceptably for the range of performance required.
- The SEE Transport style BPM electronics will be used for commissioning the beamline since the HW/SW for the new 4 channel BPM receiver does not appear to have a chance of finishing by 12/9. It is designed to work down to 100 nA of beam current and has been known to work down to 75 nA. We can perform commissioning at a current in the range of the SEE Transport electronics.
- Weekly meetings reinstated until the beamline is complete and commissioned.