



Progress at JLAB - 02-20-2014

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JLAB



Agenda

- ❑ Report of the HPS Technical Coordinator (Stepan)
 - * Planning the 2015 Run at JLAB
 - * Beamline Status and Budget
 - * Ecal Status
- ❑ SVT and SVT DAQ Status and Collaboration Business (John)
- ❑ Budget, Schedule, and System Reviews (Marco)



Planning HPS at JLAB

- Follow-up meeting with JLAB management –
 - any potential conflicts for resources have been checked
 - run plan and run time have been discussed
 - experimental readiness review is expected to be together with Hall-B readiness review in July, 2014
- Two meetings with accelerator group –
 - finalize beamline design
 - start discussions on beamline controls (interlocks, MPS, FSD)
- Input for PAC41 (to prioritize already approved proposals) has been send in (details in John's presentation)
- Continue monitoring off-project milestones
- On Feb. 5, 2.2 GeV/pass tune beam was circulated in the machine for 8 hours. This energy is a new record for one pass and is the 12 GeV machine performance requirement



off-project and HPS milestones

	Off-project milestones	Start date	Finish date	Responsibility	Comments
Beamline	Hall-B transport line		8/29/14	Accelerator	Installation is completed
	Hall-B upstream beamline ready		8/29/14	Accelerator/Hall-B	Work is started, survey is done, preparing to elevate
	Commissioning of RF separator		10/3/14	Accelerator	Tentative
	1/2/3 pass separation and beam delivery		10/10/14	Accelerator	Tentative
	Commissioning of the Hall-B beamline	10/10/14	12/5/14	Accelerator/Hall-B	
Hall-B work	CLAS12 PCAL and FTOF are mounted	10/1/13	2/28/14	Hall-B	PCALs and 75% of FTOF are installed
	Preparing alcove	10/1/13	3/17/14	Hall-B	Work is started
	Forward carriage move to upstream	3/25/14	3/25/14	Hall-B	Chicane Magnets can be installed
	Install platform and chicane magnets	3/25/14	5/15/14	Hall-B	Conservative estimate
CLAS12 Torus assembly	Start assembly of the Spit	6/8/14	6/19/14	Hall-B/Magnet	Alcove installation must be completed
	Install Torus Coils	7/21/14	1/7/15	Hall-B/Magnet	
	Cold-to-worm supports	3/16/15	3/28/15	Hall-B/Magnet	
	Weld VJ	2/28/15	4/11/15	Hall-B/Magnet	
	Orient and secure Torus to Hall B floor	4/11/15	4/28/15	Hall-B/Magnet	
	Connect leads and piping	4/28/15	5/19/15	Hall-B/Magnet	
	Leak test and Pump VJ	6/2/15	6/26/15	Hall-B/Magnet	Hall-B may be available more than only weekends
HPS	Installation of HPS apparatus	08/15/14	9/30/14	Hall-B/HPS	
	HPS commissioning and engineering run	12/5/14	6/12/15	HPS	Tentative

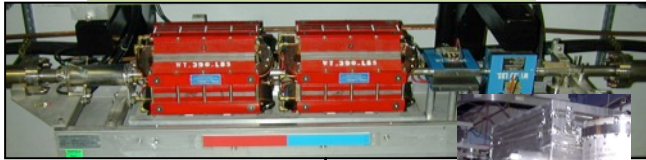
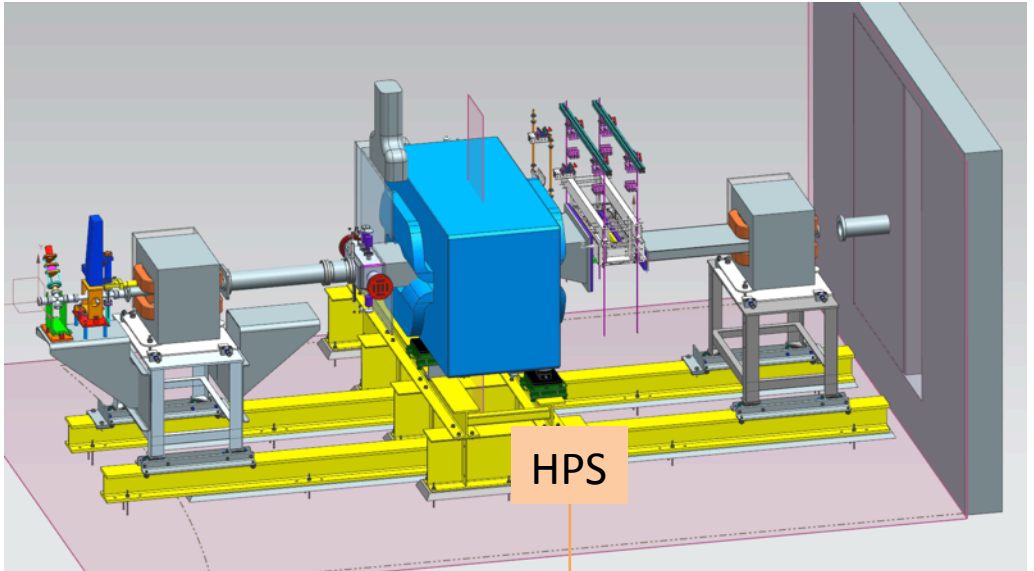
Regular meetings are held with accelerator and Hall-B engineering groups to track “off-project” milestones



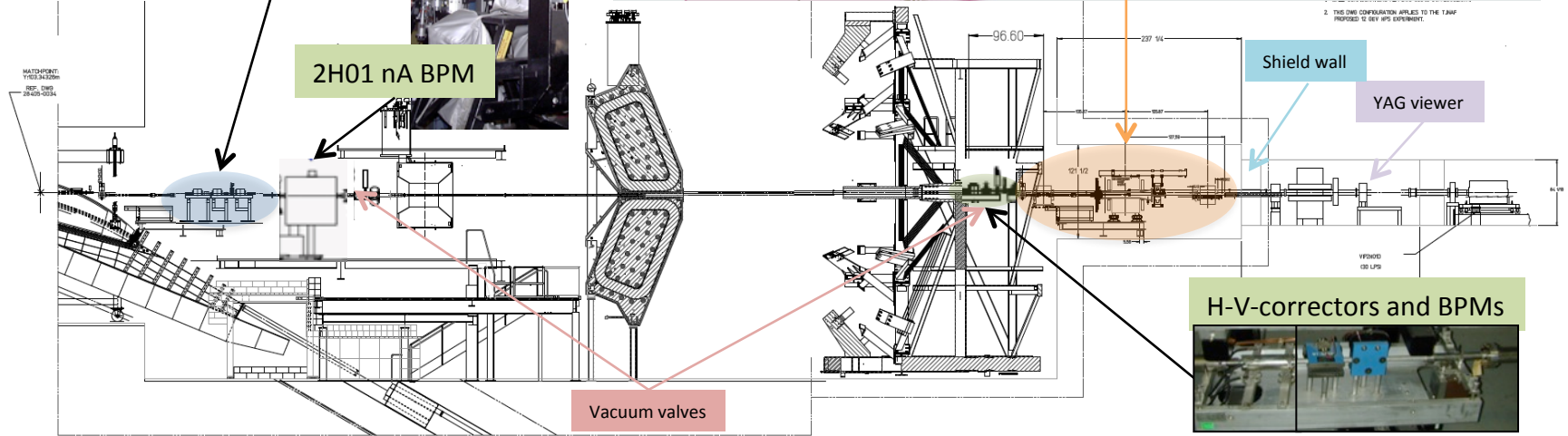
HPS beamline

- Most of Hall-B beam line will be unchanged
- Two new girders – one on the space frame, one on the forward carriage

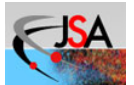
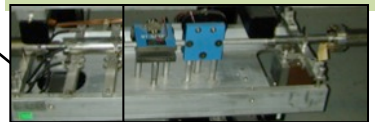
BPM, 2-QA, and H-V-correctors



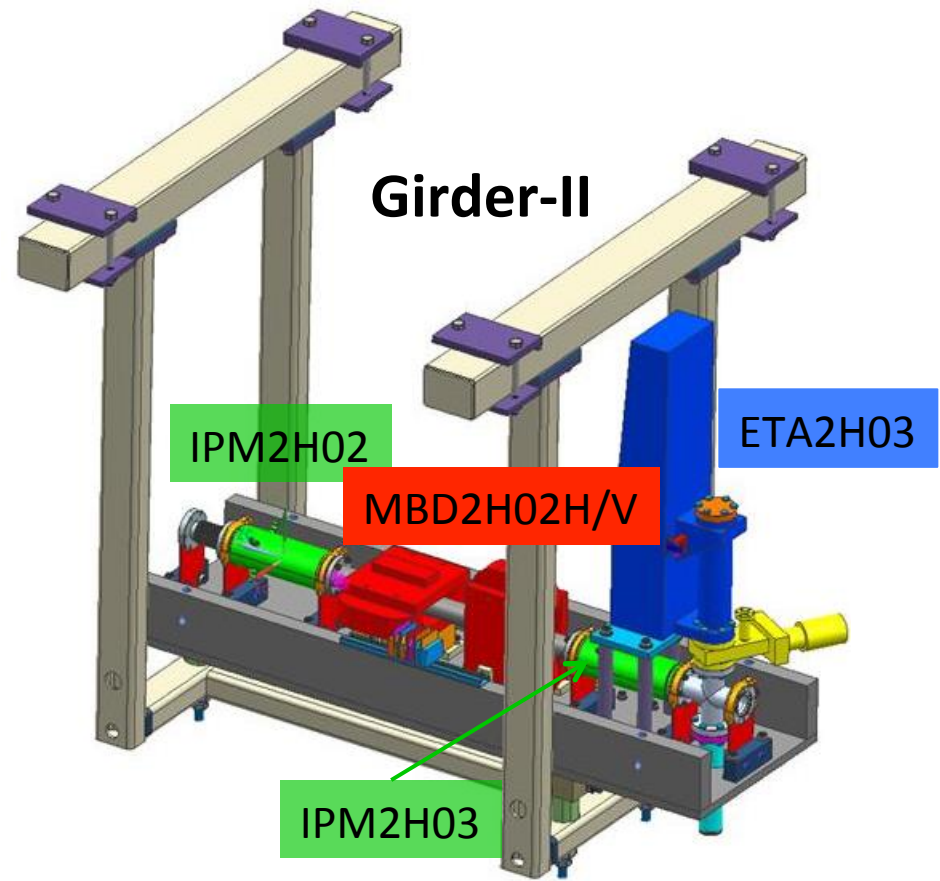
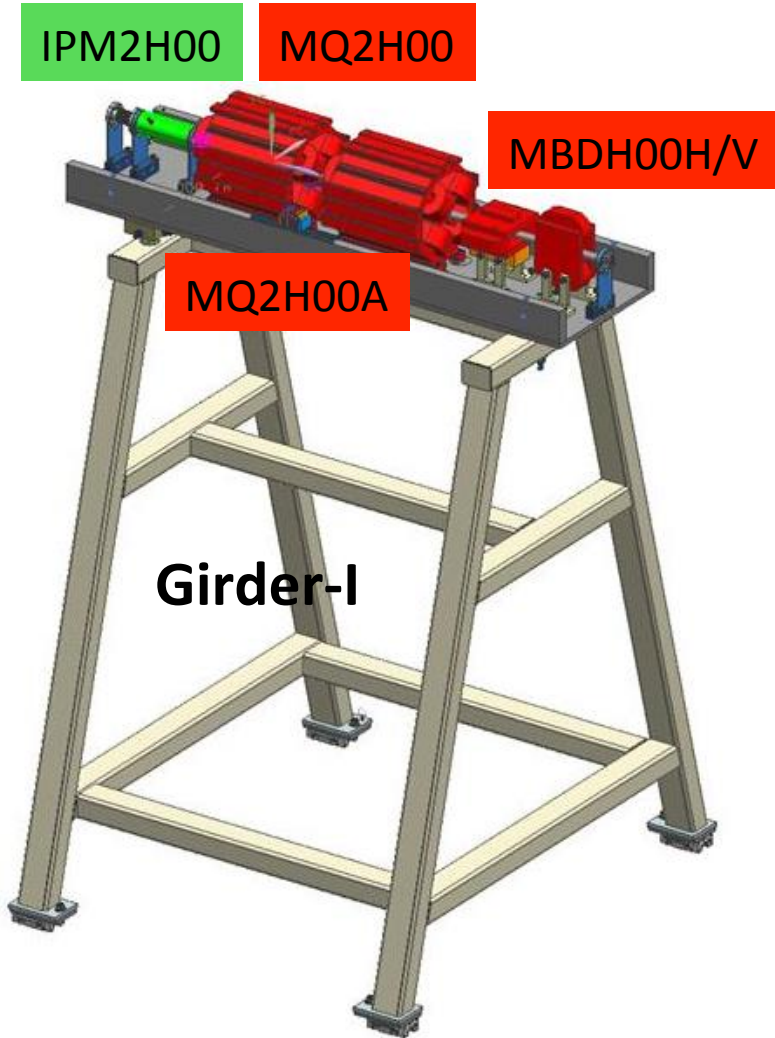
2H01 nA BPM



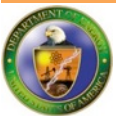
H-V-correctors and BPMs



New girders



- Design is near completion
- Engineering of support frames in progress - will use one of existing support frame will be used Girder-I



ETC for new beamline elements

- Design of the new beamline elements will be completed by end of February
- Corrector magnets and quads will be borrowed

	BPMs	New Stripline BPM Cans	New Electronics	Cabling	Labor EE	Labor ET	Labor CS
New	IPM2H00	\$2,000.0	\$6,000.0	\$400.0	2	2	1
New	IPM2H03	\$2,000.0	\$6,000.0	\$400.0	2	2	1

	VIEWER	Mecanicals	New Electronics	Cabling	Labor EE	Labor ET	Labor CS
Exist	ITV2H01	N/A	\$2,000.0	\$600.0	0.2	2	1

	nA BPMs	Mechanicals	New Lock-In Amplifiers	Cabling	Labor EE	Labor ET	Labor CS
Exist	IPM2C21A	N/A	\$4,500.0	\$-			
Exist	IPM2C24A	N/A	\$-	\$-			
Exist	IPM2H01	N/A	\$-	\$-			

	Vacuum	Mechanicals	Instrumentation	Cabling	Labor EE	Labor ET	Labor CS
New	(2) Valves		\$-	\$600.0	0.5	2	1
New	(4) Ion Pump PS		\$5,000.0	\$1,000.0	0.5	2	1

	Magnets	Mechanicals	Instrumentation	Cabling	Labor EE	Labor ET	Labor CS
New	MQA2H00		Spare Electronics	\$100.0	0.04	0.4	0.04
New	MQA2H00A		Spare Electronics	\$100.0	0.04	0.4	0.04
New	MBD2H00H		Spare Electronics	\$100.0	0.04	0.4	0.04
New	MBD2H00V		Spare Electronics	\$100.0	0.04	0.4	0.04
New	MBD2H02H		Spare Electronics	\$100.0	0.04	0.4	0.04
New	MBD2H02V		Spare Electronics	\$100.0	0.04	0.4	0.04

	MPS	Mechanicals	Instrumentation	Cabling	Labor EE	Labor ET	Labor CS
New	Pair Spec. FSD		\$-	\$-			
New	Chicane FSD		\$-	\$-			
New	Valve FSD		\$-	\$-			
Exist	PMT Halo Counters		\$-	\$-			

*Note: Manpower estimates are in man weeks.

Totals	Totals to HPS	\$4,000.0	\$23,500.0	\$3,600.0	5.44	12.4	5.24
	Grand Total to HPS			\$31,100.0			
	In HPS project			\$30000 (w/ indirect costs)	20		10

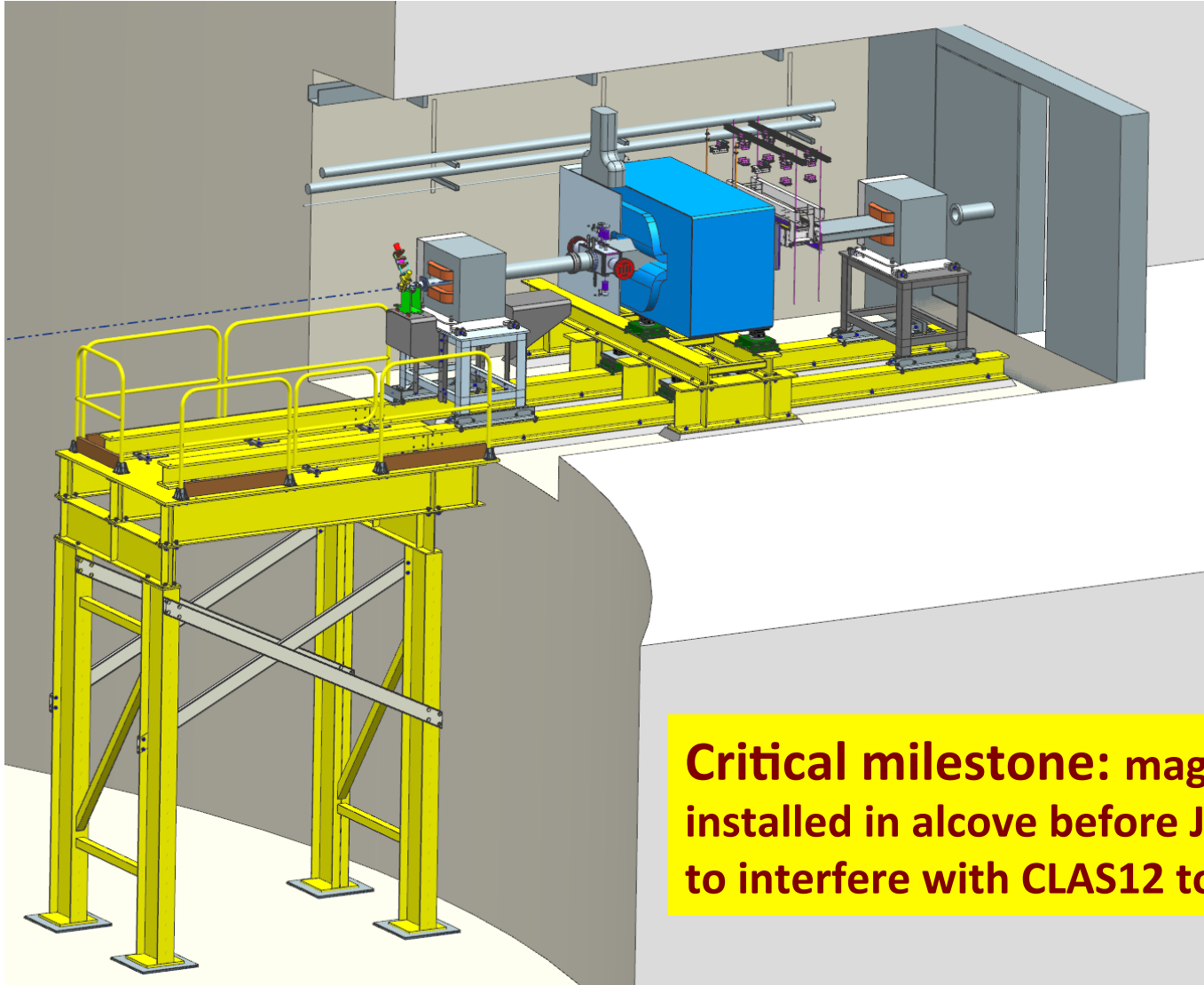
So far manpower requirement goes well with budgeted numbers. For M&S budgeted amount is lower by ~16k\$.

Final numbers will be available in few weeks

Will need some of contingency funds to complete the work



HPS chicane design status



Critical milestone: magnets must be installed in alcove before June 2014 not to interfere with CLAS12 torus assembly



ETC for alcove installation

HPS in Downstream Alcove						
Part	Weight	Quantity	Material Cost (\$)	Designer (days)	Engineer (days)	Technicians (days)
Base						
I beam W8x67x394	2200	2	17600	5	3	
Hardware and grout			900			
Pair Spec Base						
W8x67x140	781	2	6248	10	4	
S5x10 Braces	20	3	240			
Angles	5	12	240			
Floor supports W16x100x50	417	4	6672			
Hilman rollers		1	1500			
Hardware			200			
Relocate power supply cables and pipes so Pair Spec can be moved out of the beamline			4000			
Frascati						
Stand (McMaster 4769T47)	900	2	7200	15	5	
Hilman rollers (Grainger 6W042)		8	4000			
Hardware			200			
Total			49000	30	12	112
HPS project (WBS 1.1.1 ,1.1.3 & 1.1.4)			61000 (w/indirect costs)	45	20	50
HPS project Deficit			14950 (w/55% indirect costs)			62

- Labor for installation, 112 man-days, is a conservative estimate
- Installation will take place between 3/25/14 till 5/29/14



Other activities

■ ECal

- 2 out of 4 mothers boards have been delivered and are under test
- rad.tests of LEDs for LMS completed, no change in performance has been observed. LEDs have been received
- LAAPD benchmarking setup designed and built at INFN/Rome is at JLAB. INFN experts will be at JLAB in first week of March to install the setup and train students.
- first batch of LAAPDs expected to be at JLAB in second half of March
- removal of old APDs started at JLAB, will be completed before end of March
- ORSAY group progresses on the design of enclosure modifications
- enclosures and preamps are packed and will be shipped to ORSAY next week

■ TDAQ

- all hardware is on hands, tests are in progress
- firmware development is in progress, some pieces are already under tests

■ Slow Controls

- development of controls for new motors is in progress. After completion setup will be sent to SLAC
- working on development of interlocks, control modules have been identified

