

LArTF Installation Plans

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LArTF

- Purpose: walk roughly through MicroBooNE installation
 - Focus on installation of experiment electronics / infrastructure
 - Will largely not focus on TPC installation/preparation
 - Will not focus on cryo activities
 - Communication between these three sub-system leaders is also crucial
 - Schedule slides taken from Cat's latest schedule flow-chart

June

- Cryostat will be installed around last week of June
- After installation, must install MRT to verify electronics operation after move
 - Preparations progressing (Bryce, Eric, Georgia, Wes, Cat, Linda, Anne)
 - Rack preparation for move from DAB to LArTF platform
 - Un-cabling at DAB and re-cabling at LArTF on platform (practice for real installation!)
 - Network, data, command routing to computer room; power routing from somewhere...
 - Would like to move MRT before cryostat and work out kinks at LArTF; more discussion needed
 - Moving back to DAB and de-commissioning of MRT rack

Month	May				June				July				August				Septe	
Week in Month	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2		
Elapsed weeks from start	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
Detector Weld & Transport Preparation																		
Weld Endcap; verify weld	■		DONE															
Warm up piping; remove HVC setup from Loading Dock			■															
Verify detector readout; Leak test all cryostat nozzles			■															
Transport Detector from DAB and Install into LArTF						★												
Verify Detector readout, post-move						■	Install Platform, MrT Testing											

Cabling

- June or July may be designated 'Cabling Awareness Month'
- All hail Anne, the cabling czar
- Have made up orders for all cabling and fiber
 - Computer room - platform trunk lines
 - Platform network fiber, data fiber, timing fiber, command fiber
 - Copper timing, clock, trigger fanout cabling (with Georgia)
 - Command cables (HDMI)
 - Calibration signal cables (USB)
 - ASIC power cables
 - Bias power cabling (HV)
 - AND MORE!
- All cables will be labelled before installation
- Many cables must be bundled beforehand
- Will likely do some practice cable routing in preparation for installation

August

- Cabling will be installed in late August
 - Helpers will almost certainly be needed!
- Will need to work out which exact tasks from cryo and electrical work can be done in parallel to determine best schedule for cabling work
 - Because of platform weight issues, cables can not be pre-installed in platform before platform is installed
 - No reason why most, if not all, cables can be installed and ready before racks arrive — will make rack installation much quicker and easier!

MicroBooNE Remaining Installation																																		
Month	May				June				July				August				September				October				November				December					
Week in Month	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Elapsed weeks from start	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30				
Platform Area Installation																																		
Weld vessel I/O pipe sections to vessel; radiography of welds																																		
Final Platform installation																																		
Electrical - Connect vessel ground; connect AC power circuits																																		
Cryo - Install & weld below-platform piping																																		
Detectors - Install below-platform hardware: PMs, Level Monitors, Laser, HVFT																																		
Detectors - Install detectors readout cable & fiber																																		

*Things which go into nozzles on the vessel.
Cables located between vessel and platform*

September

- Ground monitor will be installed BEFORE ANY RACKS OR ELECTRONICS
- Racks will be installed in late September
 - Before moving racks, all will be fully constructed and receive pORCs; makes LArTF work much smoother
 - Helpers will almost certainly be needed: I'm guessing subsystem workers (PMT, TPC electronics, PM, Laser) will want to / need to help with their respective systems
 - Possible that some installation can be done in tandem with earlier cryo work which happens mostly at one end of platform.
 - Racks will be installed in an orderly fashion! Linda and I will have a detailed schedule to make sure installation work does not proceed chaotically!
 - TPC1 must be first (network from computer room fanned out through here)
 - Power supply closely following (needed for running any cold electronics)
 - Remaining rack scheduling is likely more flexible
- ORCs are scheduled to be finished in one week
 - That is A LOT of paperwork in a very short amount of time!

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Detectors - Install racks on Platform; connect cabling	<i>pre-commission partial systems as they are connected</i>																																	
Detectors - Rack ORCs																																		
All systems pre-commissioning can begin																																		

Finish

- A LOT of work to be done at LArTF over next few months
- Will need a lot of help from a lot of different people!