

LArTF Installation Discussion

Bryce

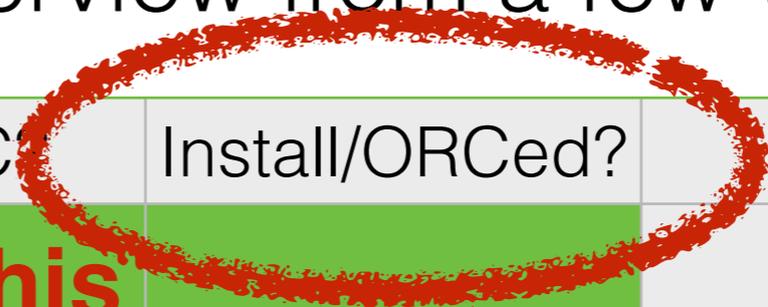
Update of rack status overview from a few weeks ago

Rack	Built up?	pORC?	Install/ORCed?	Notes
DAQ 1-4				Part of completed Computer room
NETWORK				Part of completed Computer room
TPC 1				pORCed at DAB
TPC 2				Installed, ORCed in comp room; Re-ORC on platform
TPC 3-5				pORCed at DAB
PS				pORCed at DAB
PMT				Rack built but needs finishing; pORC partially written
PM1				Installed/ORCed for LArTF garage; Re-ORC on platform
PM2				Rack infrastructure installed; need other components
DRIFT HV				Installed/ORCed for LArTF garage; Re-ORC on platform
LASER1				pORCed for DAB testing; Will ORC on platform
LASER2				Build a copy of Laser1; nearly identical pORC needed.
EXTRA				Extra rack for trigger/PMT/cosmics; will build up next week.
CRYO	-	-	-	Cryo folks in charge; Progress is good, I think...

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Let's discuss this part of the process

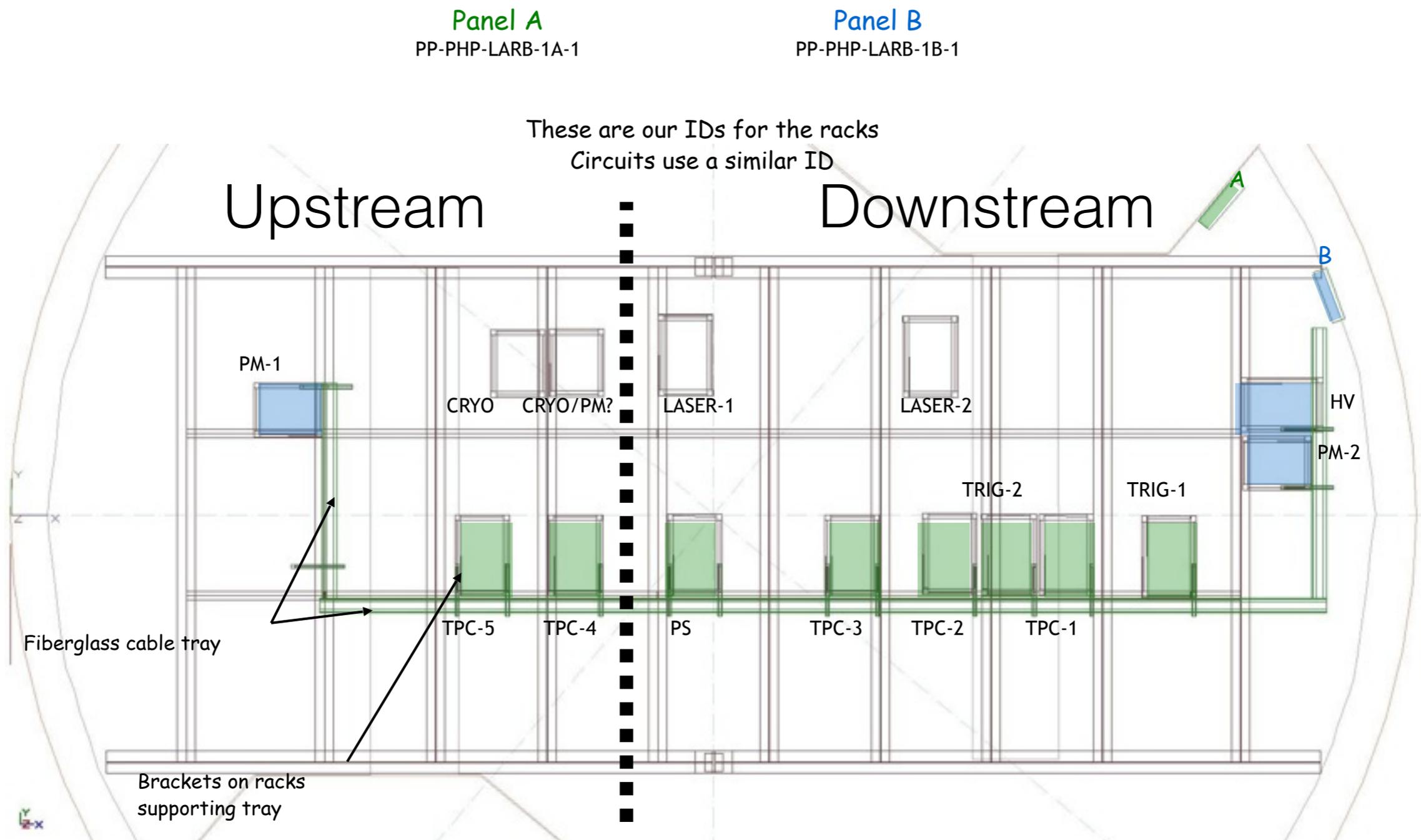


Installation

- Installation of electronics at LArTF goes in three-ish phases:
 - Installation of cabling (Anne overseeing)
 - Installation and cabling up of pORC'ed racks (Bryce overseeing)
 - ORC review installed racks
 - Linda is naturally overseeing both of these things, too

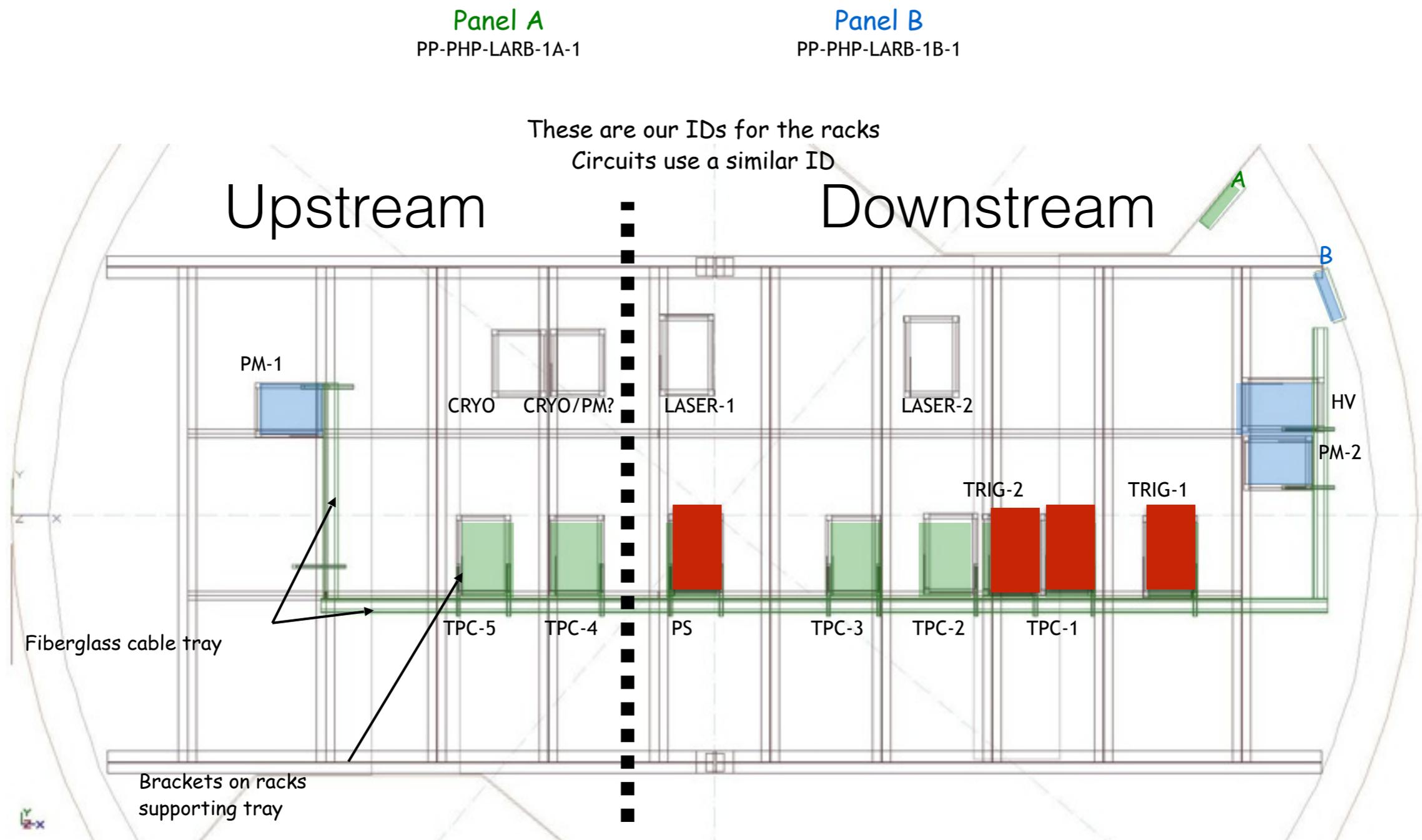
Rack Installation

- Within these up/downstream blocks, further divvying-up



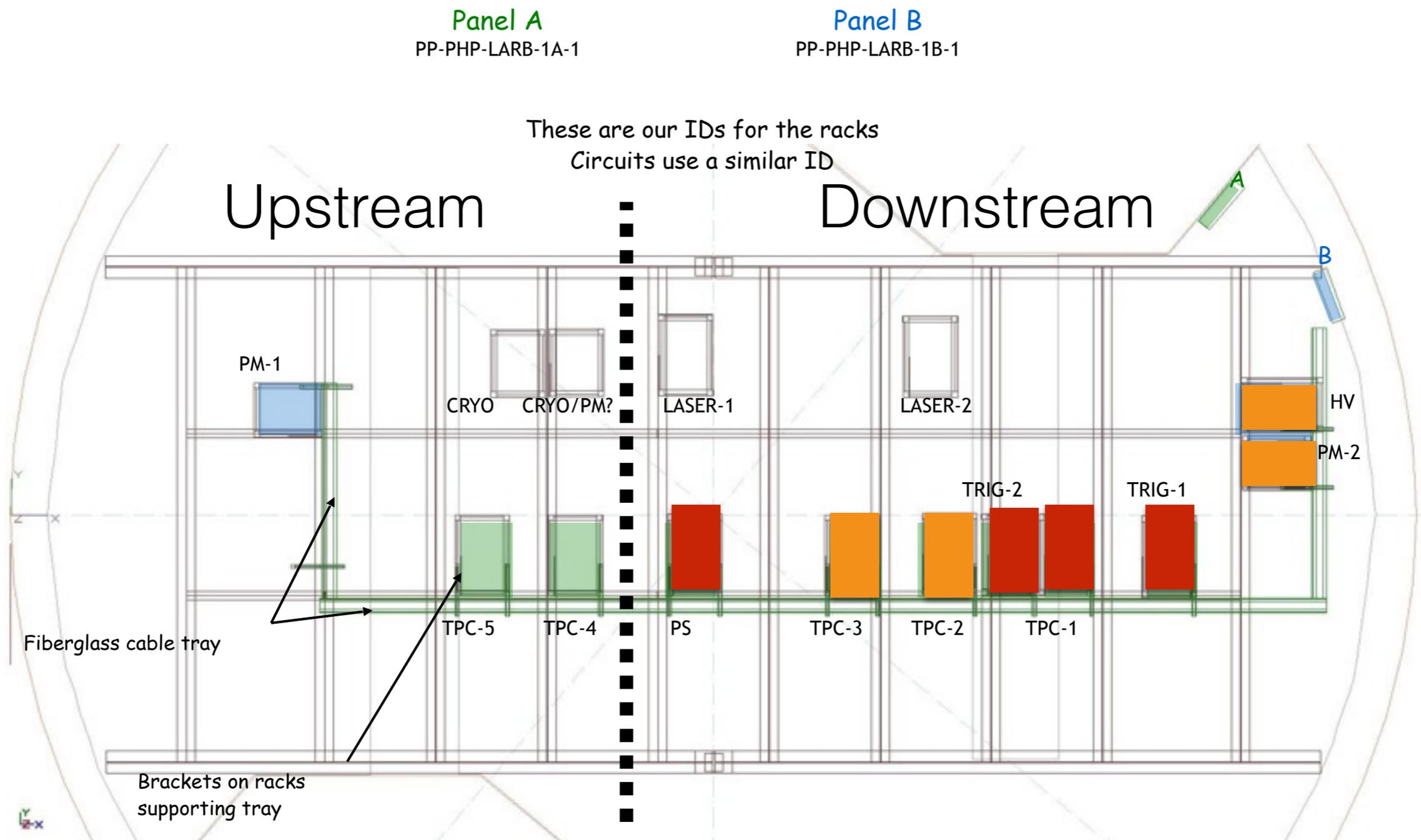
Rack Installation

- Within these up/downstream blocks, further divvying-up
 - TPC1 contains fiber fanout for all platform network and signal fibers
 - PS is needed to power/talk to the TPC; we would like to take TPC noise data as early in the process as possible; makes noise troubleshooting easier later
 - PMT/Trig1 and 2 necessary for early triggered TPC readout and trigger/clock testing.
 - Install these beginning of week of September 22, based on Cat's schedule?



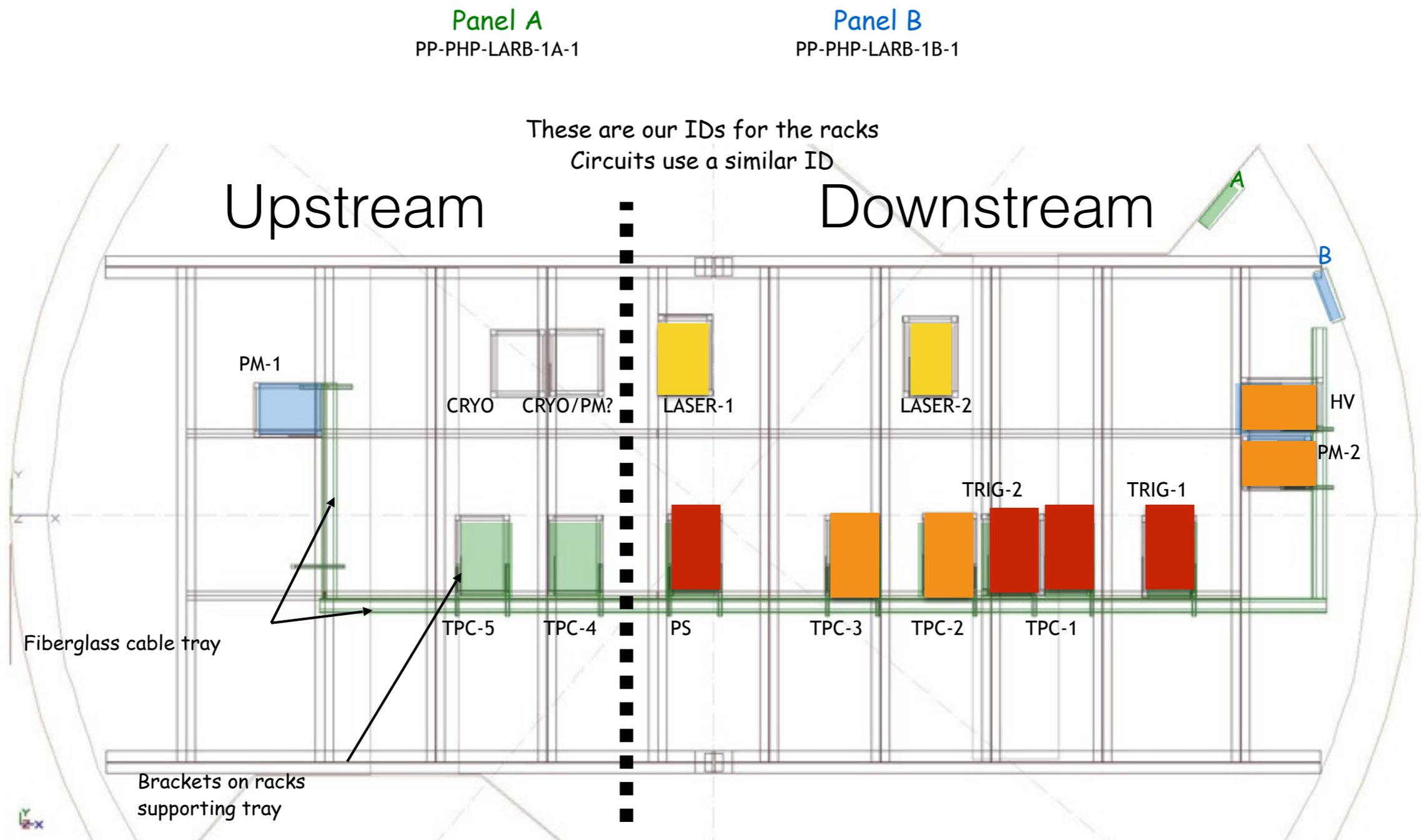
Rack Installation

- Within these up/downstream blocks, further divvying-up
 - Install TPC3, TPC2, HV, and PM-2 during second half of September 22 week
 - Allow for additional noise checks after installation of these racks but before installation of Laser racks



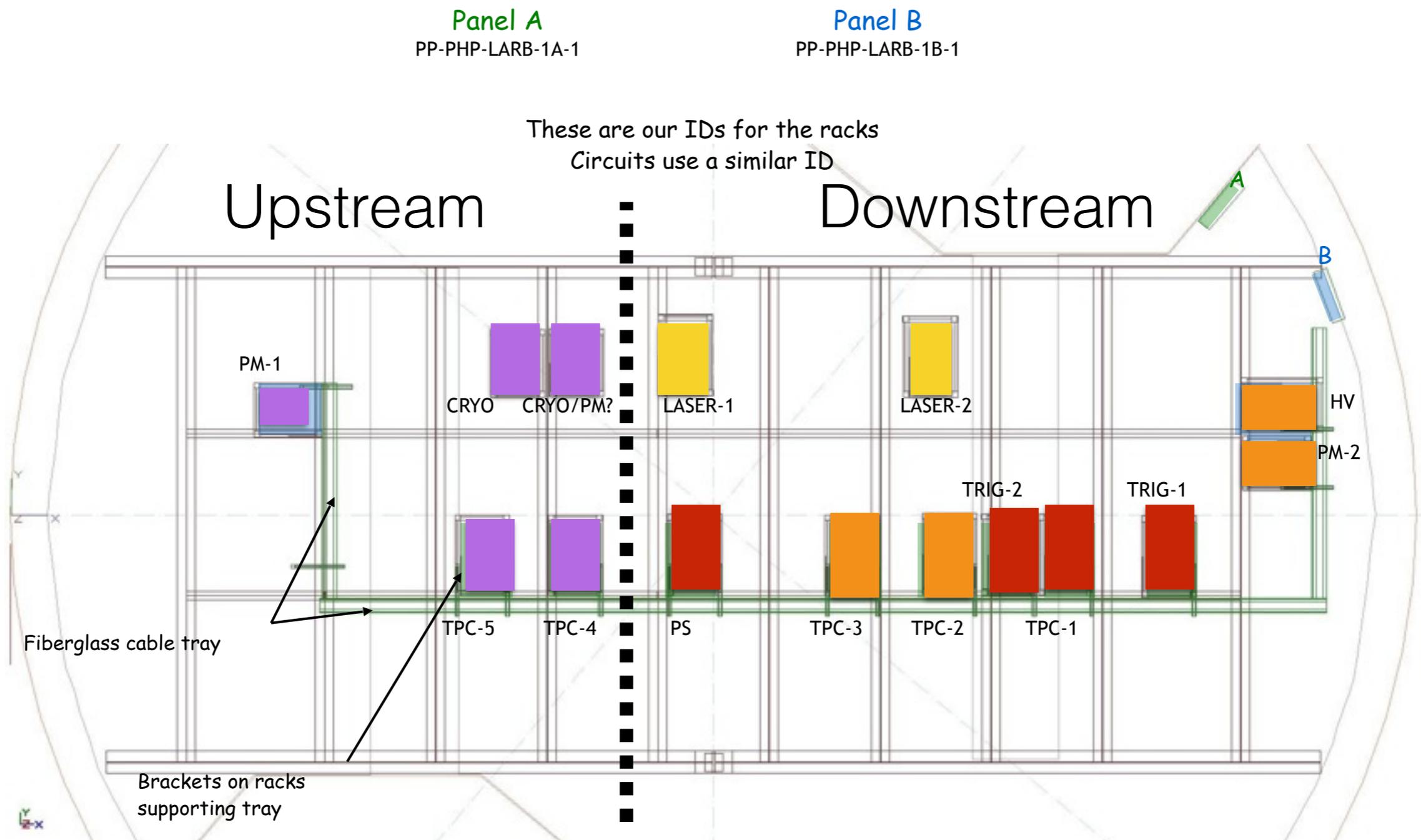
Rack Installation

- Within these blocks, expect some further divvying-up
 - Install TPC3, TPC2, HV, and PM-2 during second half of September 22 week
 - Allow for additional noise checks after installation of these racks but before installation of Laser racks
 - Laser racks installed after this, at end of week of September 22



Rack Installation

- Upstream racks (PM1, Cryo, and TPC4 and TPC5) installed in the second group, week of October 6
 - No particular ordering enforced in this second group



Rack Installation Process

- Each sub-system expert will be primarily responsible for cabling up their subsystem's rack(s)
 - Georgia - TPC racks
 - Bryce - PS rack
 - Taritree/Georgia - PMT/Trig racks
 - PM: Ben/Roberto
 - Laser: Thomas
 - Drift HV: Sarah
 - Linda and I plan to help experts through AC and grounding, to address unexpected infrastructure issues that arise with the racks, and to guide each rack install through being ORC-ready.
 - Each expert interface w/ me or Linda to go over installation plans/needs/procedures
- Questions for experts to ask themselves:
 - What cables do I need? Do I have them in hand?
 - What power or interlock needs do I have? Do we have the equipment to meet them?
 - How does my rack interface with other racks? Have I worked out this interface?
- Remember, racks should be pORC'ed already, so all we should be dealing with at LArTF is making connections to the building and to other racks... hopefully.

Rack Installation Review

- Since the interior of each rack will be reviewed in the pORC at DAB, The ORC done at LArTF is focused only on the connections from your rack to the building or other racks.
 - Thus, ORC documentation is quite short and simple
 - Most important component: line diagram showing all connections to/from your rack
 - A template for a rack ORC at LArTF can be found on DocDB:
<http://microboone-docdb.fnal.gov:8080/cgi-bin/ShowDocument?docid=3286>
This ORC was for TPC2 rack in the LArTF computer room
 - Boilerplate on AC distribution to each rack can be provided by Linda, the rest of the text can be quickly adapted from this template.
- Each sub-system expert will be primarily responsible for preparing ORC documentation and organizing the ORC
 - Contact person in ES&H for setting up a review: Eric McHugh
 - De-facto 'main' reviewer: Steve Chappa
 - Naturally, Linda and I will be available to answer your questions; one of us will definitely be there for the ORC as well.
 - Could do ORC in groups depending on how staggered the completion of racks is; documentation for each would still remain separate in that case.

- Questions?

Picture Progress



TPC1



TPC3



Power Supply

Individual Rack Notes

- Purity Monitor:
 - Hear status/timeline from Roberto/Ben
- Laser:
 - Hear status/timeline from Thomas
- PMT:
 - Hear status/timeline from Matt/Kazu
- Extra Rack:
 - Fiber/Copper translator status: Anne
 - NIM bin allocation/installation status: Matt/Georgia
 - Possible future needs from cosmic system: ???

Cabling Installation

- Ground Monitor installed by electricians prior to rack/cabling installation; overseen by Linda/Dave/EEs
- Cabling installation in late August/ early September; overseen by Anne
 - Cabling can be done in parallel with some other activities under/near platform during this time; will need to assess further closer to install date
 - Very good progress on procuring cables:
 - In hand/labelled: Warm, HDMI (ASIC control/config), LV power
 - Ordered: USB (ASIC calib), HV power (parts), BNC-lemo (parts), Wiener Inlk., fiber
 - Easy to obtain on-site: more Cat5, more lemos
 - If you have cabling needs for your system that you think we are providing but haven't talked to us about them, LET ANNE/LINDA/ME KNOW!!!
- Volunteers needed for install, although we have quite a few volunteers already (Mindy, Jason, Tia, Roberto, Anne, Bryce, Linda)

Rack Installation

- Rack Installation is slated to happen on the platform in September
 - Happens after/during installation of cabling
 - Rack installation will follow a specific order determined by Linda/Bryce based on inter-rack dependencies and other platform activities
 - Experts on each rack should plan to co-lead the installation of their racks; Linda, Bryce and Anne will co-load and support this rack/cable installation effort.
 - Georgia, etc: TPC 1-5 (TPC 1 will be installed first)
 - PS: Bryce, Linda, Anne
 - Matt, MIT, Columbia: PMT/Trig, Extra Rack
 - PM: Roberto and Ben
 - Thomas: Laser
 - Drift HV: Sarah
 - Some semi-independent rack systems may be installed earlier in order, if other platform activities do not interfere

Questions/Discussion?