Module-0:

Cathode PD Electronics exchange … and other components swap

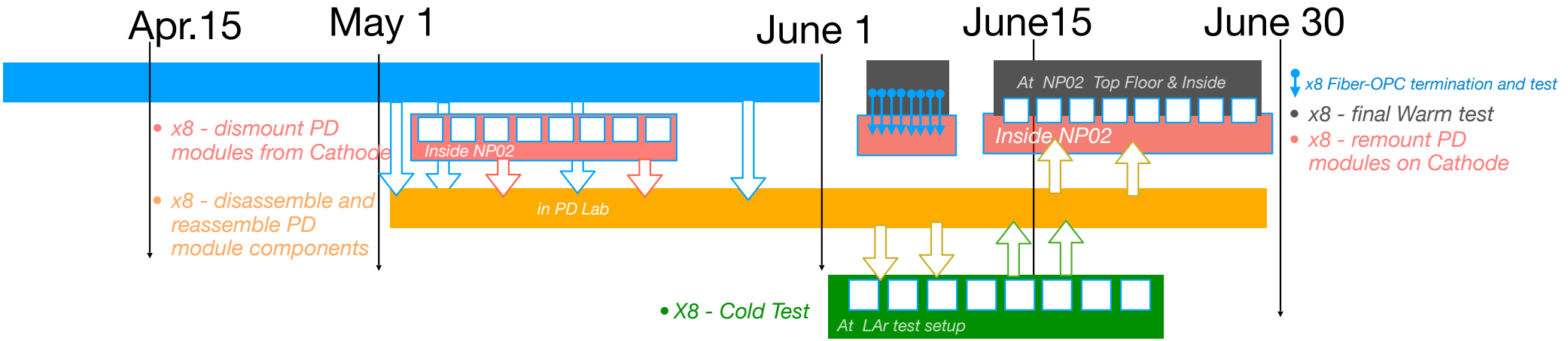
“W W W W-Update”: What, Where, When & Who

April 19, 2024

- x8 CE Boards production *(DCEM1.3.1 + DCDC card + 2LD-SoF Card + 2OPC-PoF Card), assembly* & test at IERC-FNAL
- x8 shield boxes fabrication
- x8 light leakage protection kits fabrication
- x8 WLS 5.5mm thick production
- x2 glass-substrates (non-dichroic) set (16+16 units) +
  - pTp coating
- x2 2OPC-PoF Card+enclosure (for test set-up's: PD Lab open Dewar, LAr Test Cryostat)
- Shipping to CERN

Approximative What, When & Where

TCO Closing (t.b.c)



- Remove 8 Cathode Modules (bridge in place) in NP02
- Replace PD Components (CE, WLS, dichroic)
- Test of PD Module w/ new Electronics Board in LAr
- NP02 Fiber tip cleaning & Test, *2OPC-PoF+enclosure mount & V_out Test*
- Reinstall 8 Cathode Modules (bridge in place) in NP02
- Final Warm Test

Tasks and Team (t.b.c. or t.b.d.)

- ***x8 - disconnect fibers & dismount PD modules from Cathode*** *+ Fibers tapped&secured [Team(4p) inside NP02: Manuel + 1 on bridge, Franciole + 1 on false-floor]*
- *x8 - Dismount dichroic frames (both sides) [PD Lab], check pTp coating, (clean from dust deposit - if possible) and store in rack [PD Lab tent]*
  - *x8 - check planarity of WLS plate and clean from dust deposit (if possible) [Team(2p) in PD Lab tent: Laura +1]*

  or

  - *x8 - Disassemble WLS (4mm) and replace with thicker WLS(5mm) in XA frame [Team(3p) in PD Lab tent: Carla, Laura +1]*
- *x8 - tubes - Set of fibers check, tip clean & test (PWR output w/ PoF powering from Top of NP02 Cryostat) + OPC-in-enclosure fiber termination and test [Team(2-4 p) inside&top NP02: Bill, Drew, Diana, FLC]*
- *x2 - replace dichroic filters (w/ pTp coating) with bare glass substrates (w/ pTp coating) in two pairs of frames - to be confirmed [Team(3p) in PD Lab tent: Laura, Carla, +1 Spain/Madrid]*
- *x8 - Remove faradayBox(w/ CE board, PoF and SoF) from XA frame and replace with new Box (w/ cable clip pieces at both ends) [Team(2p): Paul D/Drew + Franciole]*
- *x8 - CE assembly (DCEM1.3.1 + DCDC card + 2Laser SoF Card + 2OPC PoF Card&Enclosure) Warm&Cold preliminary test [offsets, noise/FFT] in PD Lab [Team(2-3p): Sabrina, Jaime, Dante, (FLC)]*
- *x8 - Install CE assembly + light leakage protection kit in faradayBox - connect signal cables - [Team(2p): Drew/Bill, Paul D, FLC]*

XA ready for Cold Test in LAr Test set-up [Manuel, Anselmo, Renan]

Tasks and Team (+ Bookkeeping !) - continued

- *Sequence for PD module 1 to 8:*
  - *individual **XA Cold Test** in LAr (Cold Test set-up) - [PD Team(8 people-rotation): Diana, Dante, Drew, Sabrina, Renan, Federico, Henrique, Eleonora, FLC, … + support by Manuel, Anselmo + others if available at CERN] - to be decided CAEN and/or DAPHNE r/o (Sam, Esteban,..)]*
  - *reassemble full XA module (x6 dichroic frames both sides, x2 glass-substrate frames both sides) [Team(2p): Carla, ..]*
  - *Move XA full module into NP02 and reinstall on Cathode + connect SoF fibers, plug-in OPC connectors + close faradayBo [Team(4p) inside NP02 - tbd]*
  - *individual **XA WARM Test** in Air (Dark??) - powering boards w/ PoF from rack at NP02 Top floor [continuity, offsets, noise/f [Team(4p) top/inside NP02 - tbd]*

☑ ***x8 -XA back on Cathode - ready for TCO closing***

(Need super-detailed, careful and accurate bookkeeping)

Other Tasks (before NP02 TCO closing)

- assembly, test and install two Membrane modules TCO-side: new CE, new WLS (?), 1 Module w/ dichroic and 1 module w/ glass substrate (?) - for these two Modules apply same assembly, test and installation procedure of Cathode modules

- In view of Xe doping, it would be desirable to have one XA module with quartz window to block 128nm Ar light - NEED one (large60x60cm) quartz window & frame
  -(Note: there is a lot of available space in NP02 outside the FC for possible installation of any available additional XA module)