

Minutes of March 4 2021 ProtoDUNE-ND Electronics and Readout Integration Meeting

- Attendees: Igor, Linda, Geoff, Howard, Alan, Min Jeong, Sasha, Davide Porizio, Armin, Trevor, Matt, Steve, Karen, Zelimir, Clarence and Ting
- News:
 - MINOS decommissioning restarted two weeks ago. Expect to finish it in late May.
 - Immediately afterward, we plan to install first piece of 2x2 detector configuration -- 44 Minerva modules.
 - We will use light injection system as the main tool to check out electronics during Minerva module re-installation
 - Work started to test the Minerva DAQ using Lab F test-stand
- PLC work for Bern's singleCube test
 - Igor gave a very comprehensive presentation of the PLC work done by Trevor, Matt and Igor for the singleCube setup. Detail in the slides posted on meeting indico
 - The system has PLC rack running with pymodbus as core interface software and Beckoff's TwinCAT as GUI on window PC.
 - HMI (human-machine-interface) dashboard is also provided
 - The system reads and controls transducers and valves for LAr filter, cryostat vessel, LN2 cooling and sensors of TPCs.
 - Alarming and safety control functions are also developed and tested.
 - O2 sensors for ODH are readout as part of the safety system
 - Local networking switches are used to connect PLC system, detector systems and local PCs for slow control data logger and storage
 - Di-electric breaks are used to separate groundings of the detector and building AC lines.
 - The PLC GUI system is now in expert mode for monitoring and control. Shifter mode with monitoring only functions will be developed too.
 - The system was tested at Bern and ready for the next round of SingleCube test at end March.
 - A replicate of the PLC rack is being made. The current system is to be shipped to Fermilab for 2x2 test.
 - At Fermilab, we need to add rack protection system to the PLC rack
- Lab F test-standard work
 - We will use light injection system to check out Minerva electronics during re-installation
 - We plan to use existing DAQ software "minervaDAQ" during the detector checkout. Timeline for ArtDAQ conversion is still under discussion.
 - We plan to test the DAQ under SLF7 using the test-stand at Lab F, then reconfigure the system underground in MINOS hall.
 - At Lab F, we have server "mnavt04" with SLF6. DAQ worked fine with SLF6 last October
 - Server "mnvonline07" has SLF7 OS installed late last year.
 - Geoff installed DAQ, slow control and RC to server mnvonline07 this week. First round communication test to the VME controller works fine.
 - Next round is to obtain ORC for the light injection system at Lab F, then to full functional test.
 - Geoff is suggesting a dedicated software working meeting to plan works. He will lead this.
 - Steve is to collect all Minerva servers from MINOS hall and send them to Lab F. Geoff will get them ready for SLF7 and minervaDAQ
 - Geoff is also to restart the test stand on the 14th floor for firmware work. He is to contact Christian Gingu and Paul Robinov for detail.
- AOB
 - Next meeting is March 18. We will focus on networking requirement from subsystem: light, charge and detector control.