

Current DUNE 2x2 Installation Tasks

(Dec-5-2022 update)

- Minerva installation, DAQ status and next step of commissioning/analysis
 - MS3 electronics installation and checkout status; MS2 placement late this week – **Thursday or next Monday**
 - Working group taking a closer look of DAQ component and configuration
 - Complete DAQ setup for commissioning and analysis: Nearline, Data→disks→tapes, procure DAQ server and disks
- Completing access platform installation: decking, handrails, gates, steps...
- Compress air system for valve actuators – **set up a dedicated compress air tank in MINOS for 2x2 only**
- Description of work (Matt) →SOW (Dave F) for MINOS hall electrical work: **DOW to Dave next Monday**
 - Additional cryo equipment to EPP/UPS now we have ~90-100A available to 2x2
 - Location of wire-way power bank to cryogenics 480Y – interface issue with Minerva (Howard/Matt/MinJeong)
 - Wire-way power bank details for low noise AC (Matt's talk)
- HA and training for accessing cryostat – MinJeong and Jonny
 - HA to include requirement of confined space training and escape plan with fire department (winch system)
 - Jonny teaches confined space training class
 - Jonny to also provide O2 meter and usage training for monitoring air level inside cryostat during access
 - Mike/MinJeong to provide technician names to Jonny
- Test ACPS-pump connection – Trevor
 - **Procure flange (done), conduit and junction box (to be done)** as specified in DUNE docDB 26674
 - ACPS moved to PAB. Will test it at PAB
 - Measure the current on neutral line at room temperature before installation
- PLC rack reconfiguration including ACPS supplier after grounding test? (Check status with Trevor in Linda's group meeting)
 - Need final P&ID from Mike Z to finalize PLC reconfiguration
- ODH – timeline of procurement and installation from ISD (FESS)
 - FESS and 2x2 responsivity discussion: 2x2: ODH calculation and PLC; FESS everything else
 - FESS initial timeline
 - Power requirement for the two fans – FESS: 7500CFM fan requires 3HP → 5A of 480Y (30A available from EPHP-MNA1-3-3)
- Final ODH calculation – now at 20% completion level; Need Sergey's effort for 5 more weeks
- Procurement for remaining component of gas analyzer: valves, manifold panel...

- Remaining cryocooler system installation design
 - Cooling water line (replaced chiller)
 - Condenser Ar transfer lines: cryostat → condenser → cryocoolers
 - Condenser support stand
 - Cryocooler control (operation manual in DUNE docDB 20390)
 - Venting line and safety relief: design, analysis, and support – MikeZ/MinJeong
- Cryostat service feedthroughs documentation and review
 - Instrumentation feedthrough – **reconfiguration port #2 for pump, pressure, RTD and level meter**
 - Documentation for CSS review
 - Indium seal from Bern and special tech arrangement (Kubinski's time)
- Flange procurement for purity monitor – recycle from uBooNE?
 - Flash lamp layout and support. Faraday box for lamp (Linda)
- Final rack layout and cable trays on west catwalk
 - Final number of spares for DAQ and slow control
 - **Use the detector spare rack upstream to the DC-PS rack for purity monitor**
 - **Remove the last two racks on the north to leave room accessing downstream Minerva**
 - MINOS wire-way re-work and electrical grounding separation
 - **Re-use existing south-north cable trays with addition of fiber glass poles support for electrical grounding separation**
 - New east-west cable tray from cryostat/VGA rack to catwalk
 - Additional of Unistrut poles for VGA and HV cable supports
- Racks and infrastructure for underground operation
 - Rack builds for underground use: DAQ server rack, networking rack, RPS for purity monitor
 - RPS → FIRUS connection requirement: **Jim Niehoff: not required underground? Minerva?**
 - Electrical insulation from catwalk floor grating
- Topics for next a few meetings – **start meet weekly after new year to include cryo design and electronics integration**
 - P&ID and VIE update – Mike Z
 - Testing ACPS grounding scheme – Trevor/Linda
 - Water cooling line for cryocoolers – Mike Z
 - Cryocooler system installation plan and schedule – Mike Z/MinJeong
 - Venting line and safety relief: design, analysis, and support – MikeZ/MinJeong
 - Layout update: wire-way power banks, cable trays and grounding, flash lamp support, VGA/HV cable support...