Indico link: https://indico.fnal.gov/event/17299/

Attendees: K. Mahn, S. Gollapinni, J. Maneira, J. Klein, R. Diurba, J. Wang, J. Stock, D. Rivera, T. Junk, V. Pec, C. Lane, M. Mooney, G. Horton-Smith, R. Van Berg and possibly others.

Discussion of DAQ requirements (no slides)
JK: DAQ group is very concerned for the requirements for calibration, would be helpful to re-examine what is needed, in data volume and priority. End of the summer is the latest when a statement on the Laser, Radioactive sources, Neutron source and especially Ar-39 is needed so input from calibration is taken into account as DAQ design is being finalized.
JS: Just use 2 to 4 APAs (for radioactive sources?), then really reduced.
JK: can't trigger as fast as that source goes. How will it be triggered and what data saved?

Talk 1: Space/Installation/Integration Requirements (S. Gollapinni)
Focus on understanding space requirements. The Installation/Integration workshop conducted during the last collaboration meeting provided useful information for planning on far site infrastructure and buildings near far site. Calibration-side major needs, especially for underground infrastructure needs to be understood. *Spreadsheet forthcoming to gather input from the group and itemize preliminary space needs and identify major conflicts.*
Discussion: No comments

Talk 2: External Muon Tracker (EMT) update (R. Diurba)
The talk focus was to address some of the questions/concerns raised during the calibration parallel session at the May collaboration meeting: placement of the EMT; can it be used for cosmic muons? And possible bias in the measurement.

- Ritchie has explored the space on all sides of the cryostat. On the sides, since there will only be a foot of space EMT is difficult, but possible. On the top, need to understand space constraints and construction limits better.
- Angular and spatial displacement b/n reconstructed track and EMT prediction for cosmic/rock muons was shown with impact from drift velocity and E-field.
- More analysis on cosmics and exiting muons is planned using simulation

SG: Is the change in temperature not propagated to drift velocity in LArSoft?
RD: It does, but didn't want to change the velocity beyond the precision of what slow controls can provide us. So, decided to focus on the Electric field.

KM: Can the two planes fit for "telescope option"?
RD: yes, one against the cryostat and one against the plane.
KM: Is space committed to anything else?
RD: Think they need to access the pipes at the bottom. More difficult mechanically, so should be okay if it's up above? Can talk to Jack for more details.

RD: How long till we see a reconstruction bias? Median is 40 events = few weeks? should be able to see something.

SG: When you say "iron" in front of the cryostat, what are you exactly referring to? Is it the stuff between Liquid argon and the mechanical structure?
TJ: Membrane of steel, very thin, mechanical structure

KM: Need to clarify the size and nominal design that is proposed.
RD: Front and top is what is being assumed. But, I am worried about how the construction requirements impact this?
SG: We need to come up with the nominal design to achieve the physics we want to do, then coordinate with installation and construction teams with requirements to make it happen.

RD: For this analysis, currently just examining drift velocity. Idea going forward is to consider alignment.
MM: Can also use cathode crossers for drift velocity. If alignment issue, then that can muddy things. Use rock muons from front panels for this. If discussing placement of the panel, maybe really orthogonal from cathode?
RD: Also cathode crossing from side? Side is attractive.

Talk 3: Neutron Generator Update (J. Wang)

- A timeline for activities planned for 2018 and 2019 are showed. These includes a possible moderator test and activation studies for materials at Berkeley and possible CERN Neutrino Platform proposal to test a prototype design at ProtoDUNE. The timeline of ProtoDUNE beam and cosmic runs needs to be better understood. The proposed plans also includes a proposal to LANSCE (LANL) for transmission measurement. A significant simulation effort is also needed in parallel with other activities.
- A simulation study was shown to understand the expected coverage from using one neutron source at the center of the cryostat. Sulfer is used for filer material in simulation. It is shown that while 2 sources would be preferred, one source should be able to cover the full TPC.

TJ: Believe protoDUNE may run for a few months after beam turns off. Talk to Christos, Gina and Flavio.
JW: The timeline is tricky. Constructing the device, need to know the resonance.

SG: Unfortunately, We have to end the meeting at 1 hour mark since we both have to run to another meeting, so can't have elaborate discussion. (to Jingbo) we will follow up over email with some questions and can have more discussion next time.