WA104 Technical Working Group meeting
https://indico.fnal.gov/event/22502/

At FNAL: M. Aslin, B. Behera, M. Betancourt, H. Budd, D. Gibin, B. Howard, R. Howell, C. McGivern, C. Montanari, S. Palestini, G. Savage, D. Torretta, F. Varanini, P. Wilson, A. Zhang
Remote: A. Aparicio, T. Boone, A. Braggiotti, S. Colafranceschi, M. Convery, C. Farnese, A. Fava, A. Guglielmi, M. Hogan, C. James, W. Kecthum, U. Kose, D. Mendez, GL. Petrillo, G.L. Raselli, Y.-T. Tsai, C. Vignoli, B. Wilson

1) C. Montanari _ News and updates

Last version of plans for cryogenic operations is that all activities will be completed by mid-December, including the sign off for the start of operations and the call to the Ar supplier. However, cooldown will not start until beginning of next year, meaning Jan 6 or Jan 13 pending the availability of CERN experts.
This means that the detector will be open to installation activities until the end of the year. People is coming at the beginning of December for completing the installation of PMT cables and technicians from INFN will come in the same period to support installation of DAQ fibers and extensions of cable trays.
- P. Williams reminds that the Lab is not shutting down during Christmas, apart from 1 and a half days for Christmas and the same for Jan. 1st, with technicians support available. Therefore, work will be possible, still following the usual practice of work planning documents.
He also requests people to start a clean-up of the work area, that will be needed before beginning of cooldown.
- C. Montanari reports on a recent meeting about 5 reported accidents in SBN activities in this calendar year, 2 involving collaborators and the others. No actions will be taken, also accounting for the fact that installation activities are coming to an end, however each person working in the detector hall, as ultimate responsible of his/her own safety, is invited to speak up in case he/she is not comfortable with the job.

A few answers have been received about the request of availability of experts-on-call: CRT, PMT, HV, DCS, DAQ. TPC and trigger working groups are still discussing this topic.
Holes have been identified for additional support for HV drift (2 people needed to join Z. Williams), DCS (2 people needed to join G. Savage) and DAQ.
- Upon G. Savage request, C. Montanari clarifies that this request for more experts will be reported to the IB by B. Wilson, chair of the IB.

2) M. Betancourt _ Report on the substitution of three bottom CRT readout boards
https://indico.fnal.gov/event/22502/contribution/1/material/slides/0.pdf

M. Betancourt reports on finding issues with 3 of the bottom CRT panels, only 1 of which was immediately accessible (and repaired) while for the other 2 the cryostat feet were in the way.
For these, the repair involved lifting the cryostat with hydraulic jacks enough to remove the metal blocks and shims and therefore access the damaged boards that were contextually replaced. The replaced boards were successfully tested for the current drawn and DAQ.

Excellent progress in the last month was also recorded on the side CRT, with the installation of a vertical slice test, installation of the North wall and of the servers racks that are ORC approved. Ongoing and next efforts are then summarized, mainly focused on DAQ and online monitoring setup for the side CRT.
- Upon C. Montanari request, M. Betancourt reports that the plan to install the rolling parts of the side CRT has been approved.

3) C. Farnese _ Report on investigation of noise induced by PMTs on the wires

https://indico.fnal.gov/event/22502/contribution/4/material/slides/0.pdf

More investigations of possible contributions to noise on the TPC wires as induced by PMTs, triggered by preliminary findings in October, were carried out at the beginning of November.
The problem resulted to be related to a malfunctioning board, and not to the PMTs themselves.
Additional tests have been performed to verify the effect of the high voltage cabling in terms of noise on the TPC wires, with no visible effect detected.

4) G. Savage _ Short term planning on fibers and cables routing

https://indico.fnal.gov/event/22502/contribution/2/material/slides/0.pdf

G. Savage reports on a list of short terms projects, including extension of cable trays to the chimneys, production and installation of protection boxes for DAQ fibers and cleanup activities.
- P. Wilson stresses the need to clean up the MINOS building area, that will soon be needed for de-commissioning of Minerva detector and installation of ArgonCUBE detector.
- C. James recalls that the existing Unistrut structure was never planned to extend overhead to the corner chimneys, and there was agreement that the way the cables were to be brought to the corner chimneys would have to be customized.
Concerning the protection boxes for the DAQ fibers, the parts for the officially approved solutions need to be procured. A simplified version of this was proposed but not approved, with the added benefit that it could be installed after the deployment of the pigtails.
- Upon C. Montanari request, G. Savage clarifies that the delivery time of the part for the metal boxes has not been clarified yet, and it is dominated by the connectors that are stockroom items but not available in stock.

C. Montanari reminds that, for the time being, the priority is to get the cryo system ready by mid-December, which involves activities to be carried out on top of the detector that imply the presence of FNAL technicians. A second point is that a short between detector and building ground is still present and needs to be resolved, which requires to stop and disconnect the vacuum pumps and disconnect everything from AC distribution.
- Upon B. Wilson request, P. Wilson clarifies that CERN people are coming in December to complete the checkout of the cryo system together with FNAL people, and they are coming back in January for starting the plant. The review, in any case, will just be the completion of a continuous process that has been ongoing for 2 years.
C. Montanari requests G. Savage some feedback on the delivery time for the parts for the boxes in order to plan this activity.

He also requests people that will come to FNAL at the beginning of December dedicate no less that one day to identify and throw away all garbage and classify spare or parts yet to be installed. D. Torretta volunteers to be the reference person for this task.
Concerning clean up of the MINOS building, a walk-through lead by A. Soha and K. Hardin will be scheduled at the beginning of December.
The discussion of more mini-crated needed to be connected to the readout for DAQ testing is brought back by Yun-Tse, although the risk of damaging the cables still remains as explains by C. Montanari earlier in the meeting. A. Fava recalls that in any case installation activities of the CRT panels will be happening right on top of the mini-crates at later stages of the installation that cause this risk to persists, and suggest that protection measures are taken into account in any case. C. Montanari suggests to continue such a discussion in the framework of the TPC working group.