

Minutes of the Joint COMPASS and AMBER TB meeting of 23rd March 2021

S. Levorato

May 10, 2021

Attendace via Zoom only

Jens Barth, Oleg Kiselev, Bernhard Ketzer, Jan Michel Friedrich, Martin Losekamm, Daniele Panzieri, Marcin Ziembicki.

Oleg Denisov, Stefano Levorato, Jan Matoušek, Fulvio Tessarotto.

Vincent Andrieux, Franco Bradamante, Alain Magnon, Gerhard Mallot.

Maxim Alekseev, Shuddha Dasgupta, Michela Chiosso, Christian Dreisbach, Karl Flöthner, Anna Martin, Michael Pešek, Matthias Grosse Perdekamp, Norihiro Doshita, Christophe Menezes Pires, Moritz Veit.

The material presented during the meeting is available at
<https://indico.cern.ch/event/988385/>

The meeting starts at 2:00 pm

Agenda

- 1 Approval of the minutes of the Technical Board held on 19 January 2021
- 2 News and communications
- 3 GEM new stations planning, installation, LVPSU
- 4 DC4 status report
- 5 RWall repair plans
- 6 PT Update
- 7 DC5 status and planning
- 8 Status Summary for 2021 run
- 9 AOB

1 Approval of the minutes the TB of 19 January 2021 *S. Levorato*

The minutes of the Technical Board held on 19 January 2021 are approved.

2 News and Communications *S. Levorato*

- a Marcin Ziembiki's membership ends at the end of March. S. Levorato will contact TB members asking if there is any candidate for taking Marcin Ziembiki's membership.
- b Preparation for the AMS clean room in 892 installation is progressing; some structural issues force the intervention to be performed as soon as possible. The status of the cleaning is well advanced. It is worth to mention few points:
 - All materials belonging to TUM were stored on the last shelf of 892 Archive (Saleve side)
 - an issue with glass - lead blocks emerged: they were found radioactive. The proposed solution is to transfer them to building 883
 - Only CAMAC crates were thrown away
- c A power cut in building 891 for the UPS line was performed on 22nd March with the objective of ensuring that there are no critical systems supplied by some switchboards that will be upgraded in April. No impact on COMPASS was reported.
- d Chilled water is now available and DAQ was switched on chilled water. Raw water is also available. Demineralised water is not yet available. It is scheduled to be available in mid-April, as soon as consolidation of M2 beamline magnet will be over.
- e An interruption in Ar supply was reported on the night between 14th and 15th of March; the Ar flow was stopped for 8 - 9 hours. An investigation was run and it was found that the operator in the distribution centre forgot to open the valve on the second bottle set. No major impact on detector was reported but for the RICH PDs which might have suffered from contamination. An alarm was sent on CERN phones. C. Pires reminds that the SMS service is active only on Swiss numbers. S. Levorato reports that he discussed with D. Jaillet about the possibility of implementing an automatic switch to N₂, underlining that it can be a wise option only when HV is switched off.
- f The HV power supply system CAEN A7030DP for STRAW 3 has arrived, it will be installed soon. STRAW 3 filters are regenerated.
- g Mezzanine is freed. There is still a pipe used for DY polarised target. It was proposed to store it at the bottom of experimental hall.

- h ECAL0 is stored in vertical position in storage place in building 888.
- i DC4 was moved to building 888 and put in place thanks to a dedicated team.
- l The horizontal bar that supports H1 is bent. It will be replaced and a L shaped profile will be added. Some issues with rohacell structure emerged, newly ordered rohacell will be delivered soon and be ready before re-installation of scintillating slabs will start (week of 18 April).
- m The flammable gas system renovation is now running on schedule.
- n The upgraded Gunn diode is being delivered to CERN.
- o A failure of ^4He pump occurred on 22nd March. PT group is working on it. SIMEV has been contacted and is ready to intervene if needed.
- p The 8 Wiener LVPS are being repaired, they will return in May.
- q PURCHASE REQUEST: CAEN A1535N 24CH new module for TRIGGER. Meanwhile Mainz group will repair the old one and keep it as spare. (cost 5kCHF).
- r PURCHASE REQUEST: HMT-1 Support system for remote operations, described in previous technical board. Now WI-FI coverage is ensured in experimental hall. (cost 3k€)
- s S. Levorato solicits presence of Detector Experts well in advance before the start of 2021 run. He also reminds that there is support from CERN to ease travels, in case of exemption of quarantine request is needed.
- t C. Dreisbach ensures his presence at CERN for one week in the beginning of April for testing the Si cooling system.
- u for PRM a new design of tracker is proposed by TUM colleagues. The new design will house both ALPIDE and scintillating fibers. Estimation of cost will be received soon. Plan for 2021 pilot run is to have one station.
- v A meeting for hydrogen re-circulation system was held. A dedicated group is working in defining the procedure. The main problem is the compressor, since commercial ones have high costs. An alternative solution is advised.

3 GEM new stations planning, installation, LVPSU

K. Flöthner

Karl Flöthner reports about new GEM trackers production and status of the existing stations. Bending issues of honeycomb plates have been fixed by changing the production procedure. The material is available for making two new detectors out of four needed. The funds needed for minimum amount of materials considering spares is $\sim 30\text{k€}$ [20k€ for Foils+3K€ for Honeycomb plate +6k€

for APV adapters]. 10 out of 60 needed Front End cards are in the lab and 50 need to be bought; the PCBs for new ADC cards have been ordered.

39k€ are needed for buying LVPS; TC comments that ~ 30 kCHF were foreseen for the upgrade; G. Mallot reminds that COMPASS Common Fund has 40k€ as leftover from last year investment; TC agrees on making a proposal for the purchase.

F. Tessarotto asks for the possibility of implementation the new stations in the start of the RUN. Karl Flöthner explicitly mentions that it will not be possible and the dry run will be performed with existing GEM stations. B. Ketzer reminds that GEM4 has been replaced by GEM11 2 years ago and the 4 new stations are build to replace the aged existing GEM stations.

4 DC4 status report *S. Plachkov*

Stephane Plachkov was not present nor available by phone or by mail at the moment. The decision was to move to the following presentation.

5 RWall repair plans *M. Alekseev*

Maxim Alexeev presents the status and planning for the refurbishment of RICH WALL detector. Due to the pandemic all planned tests have been rescheduled with part of them performed in Turin lab. In total 360 long MD tubes and 144 short MD tubes need to be tested. Short tubes will be shipped to CERN. Five seriously damaged MDTs will be repaired by Dubna colleagues. Maxim mentions that the work needs to be done before moving SM2 ; it is really challenging but can be done, considering that the malfunctioning MDTs can be mounted on the outer part of the RICH WALL. Daniele Panzieri mentions that the support of the Dubna colleagues is strongly needed. It has been confirmed that the funding for 3 months of Dubna participation will be provided.

6 PT Update *M. Pešek*

Michael Pešek reports about the activities that have been done since last Technical Board. The target loading platform has been put in place. Four valves on ^3He panel were changed because they were found malfunctioning and two others were dismantled, cleaned and re mounted. The o-ring in the liquid N_2 turret was successfully replaced. ^3He pumps were purged by N_2 circulation. LN_2 trap and ^3He circuit were prepared. LN_2 pre-cooling system was installed. Few operations still need to be done. Helium lines will be purged and leak checked soon. After target loading, the Gunn diode setup will be installed. Yamagata and Prague groups are in progress of purchasing the missing material; most of them are expected to be delivered soon. PT preparation is running almost on schedule, with a one week delay for the loading. N. Doshita underlines necessity to access the front of the PT for at least one week after the loading.

7 DC5 status and planning *M. Gross Pardekamp*

Matthias Gross Pardekamp gives an overview of the DC5 status. He confirms that DC5 YY' plane has a short; the repair will take around 2 weeks. Matthias explicitly mentions that, due to US and University rules, no one of UIUC group can travel before end of June 2021. The possible weeks foreseen for the repair are W25 and W26.

8 Status Summary for 2021 run *J. Matoušek*

Jan Matoušek reports about the status of the preparation of the 2021 run. He stresses the importance of detector survey, asking Detector Experts to give their availability in order to have a surveying schedule. It is planned to have a 6 weeks dry run starting on the 31st of May; during the dry run all the FEs will be switched on, the DAQ will be tested, new detector components will be integrated in DCS and detectors will be tested. For detector tests, Detector Experts are requested to list all the tests needed in order to set up a schedule. After the dry run, a 3 weeks commissioning with beam is foreseen; also for commissioning a list of tasks should be provided. Daily checklist of detectors will start soon. Communication between Technical Coordinator, Run Coordinator and Detector Experts will be managed via complementary channels: bi-weekly - and later weekly - meetings, run web page (in construction, available soon) and Mattermost. During dry run $2 \times 4\text{h}$ (or 1 *times* 8h, to be decided) shifts per day are foreseen, with one local and one remote shifter plus week coordinator on site; no shifts at weekends. During run $3 \times 8\text{h}$ shifts per day are foreseen, with one local and one remote shifter (remote only during day time) plus week coordinator on site. Detector Experts are requested to communicate names and contacts of experts on site and on call and their schedule. N. Doshita underlines the need of constantly monitor the polarised target once material is installed; a remote shift plus experts on site on call is a feasible option.

9 AoB

- No other arguments are proposed.

The meeting ends at 5 pm.