



Summary of the 29th FOM Meeting

Held on Tuesday 10th October 2017

Agenda <https://indico.cern.ch/event/671627/>

- 1. Follow-up of the last FOM*
- 2. Status of the machines*
- 3. Schedule update*
- 4. AOB*

1. Follow-up of the last FOM

B. Mikulec chaired the meeting.

The list of presence can be found in [Annex 0](#).

The [minutes of the 28th FOM](#) were approved with comments from **F. Pirotte** concerning the coming DSO tests (NA ion interlock and AWAKE electron gun).

2. Status of the machines.

Linac2 & Linac3

F. Di Lorenzo reported the status of the linacs ([Annex 1](#)).

There was nothing special to report on Linac2 with 100% availability over the week.

Linac3 had a 99.5% availability due to few source RF generator trips that were solved by simple resets.

LEIR

R. Alemany reported on the LEIR status ([Annex 2](#)).

It was a busy week at the LEIR with many MDs and an improved injection efficiency (up to 8×10^{10} charges) approaching last year's performances (with lead). The operation was perturbed by three main issues related to the CRF41 cavity and to the B-train generation. New electronics was installed on the ETL.MSF30.INJ SEMGrid giving the possibility to have time resolved measurements (4 us time slices). On Thursday, the record transmission efficiency with Xe beam to SPS was broken.

Few issues are still to be followed up: Ripple on ETN.BHN10 acquisition, unstable phase offset between LEIR and PS, wobbling beam and PS flat bunches....

PSB



V. Forte presented the status of the PS Booster ([Annex 3](#)).

It was a very good week for the PSB with 99.6% availability. Several beams were finalized: 8b4e_BCS for LHC was inserted in the operational list (changing status/name from MD), MD2240_SPSSCRUB beams (BCMS25, LHC25_A and LHC25_B versions) were played by the PS on Friday and ready to be taken by the SPS, STAGISO, MD_GPS_H2_PS MTE beam with ISOLDE-like intensities ($\sim 660 \times 10^{10}$ ppr, 8-8.5 and 7-7.5 μm in horizontal and vertical emittance respectively) and the 4-ring version of LHC_VdM (AOB from last week) was also prepared.

The major fault of the week was the failure of the transverse feedback cooling system, which generated ~ 19 minutes of beam stop on Saturday morning. Few minor faults occurred on extraction bumpers, septum and kicker. A short stop should be planned next week for an intervention to fix the issue with the BT1.SMV10 drift.

There is also a recurrent issue related to the Tomoscope and the number of available licenses for Mathematica. **B. Mikulec** commented that a short term solution would be to get 2 more licences, the long term solution being to translate the FORTRAN and Mathematica codes in an open source language. For getting more licences, **A. Bland** said it should be discussed with the IT licence manager. **M. Gourber-Pace** added that the FORTRAN part could be re-written in Python, which is supported by CO and **H. Damerou** said that Mathematica only provides the graphical interface and could be replaced by a code in Java. **C. Rossi** added that **A. Butterworth** is already working on replacing the FORTRAN part. The budget question for the 2 additional Mathematica licenses will be followed up by **C. Rossi**.

ISOLDE

M. Lozano reported the status of ISOLDE ([Annex 4](#)). It was a very good week for ISOLDE.

On the GPS side, 142Sm beam was sent to Miniball at 4.62 MeV/u until Wednesday. The run was extended by one day due to the target increase yields found by the target team on Wednesday morning. There were MDs since Thursday and a new target was installed.

On the HRS side, CRIS started to take radioactive Ga beam from Friday before coming back to protons and neutron converter on Sunday. CRIS run stopped on Monday. The target was being exchanged.

E. Siesling added that they will request STAGISO beam on HRS.

ISOLDE Users

There was no report.

PS

I. Efthymiopoulos reported the status of the PS ([Annex 5](#)).

It was a very good week with 98% availability. The list and details on delivered beams and MDs that took place were given.

The issue with POPS failing to pulse for few cycles continued at the beginning of the week. The intervention on Tuesday to exchange a communication card did not solve the issue. It was finally decided on Thursday to switch to the old pulse B-train system since when smooth operation resumed.



The EPC experts are following up the issue and may want to switch back to the new WR system at some point. The intensity limitation to T9 (3 spills/SC) will be kept until the end of the proton period, as the PAXEA61N monitor remains on low thresholds set from RP (corresponding to a permanent working area for the CLOUD team). Some transient instabilities were observed for the MD1-high intensity beam for SPS scrubbing MD (mainly in the V-plane around extraction). Changes in the vertical chromaticity improved things (to be followed up).

The optimization of the Xenon beam in view of the ion physics program for the LHC and NA is ongoing.

The ToF integrated delivered intensity is almost 10% ahead of schedule.

East Area

B. Rae said that it was a very stable week.

East Area Users

H. Wilkens said that the present number of cycles in the supercycle is fine until the end of the year.

nToF Users

F. Mingrone said that a new experiment started yesterday in EAR1.

AD - ELENA

L. Jorgensen reported the status of the AD ([Annex 6](#)).

It was a very stable week.

The AEGIS experiment had a vacuum leak on Wednesday and had to do a partial warm-up of their system. It then became necessary to do some steering on the ALPHA line on Friday morning and on the ATRAP2 line on Monday morning. On Friday night there was a problem with a vacuum valve at ASACUSA, which was solved by the vacuum Piquet. A NIM crate power supply was replaced and connectors cleaned and sprayed with contact spray to try to get rid of the instability in the LLRF causing smaller numbers of ejected Pbar.

T. Eriksson reported the status of ELENA.

The priority is given to deliver H⁻ ions to the Gbar experiment. A pretty good intensity was reached at the beginning, but it started to slowly degrade. The issue is not understood yet and it will be investigated this week. The Ecooler will be ready for installation in ELENA in December.

AD Users

H. Wilkens had nothing to add.

SPS



K. Cornelis reported the status of the SPS ([Annex 7](#)).

The SPS had an availability of 93.5%. Main issues were related to Fixed Target cooling problems, which are not fixed yet, as the replacement of the flow switch in T6 would take too much time. The intensity on T2 was reduced on Thursday from 50e11 to 20e11.

A blow-up was observed on the 3rd batch last bunch when they switched to 4 batches with BCS beam for LHC and the third injector kick had to be slightly delayed. The Xe beam for the LHC was prepared on Thursday and Friday.

HiRadMat had an extensive week.

The Scrubbing run with 2e11 ppb last 24 hours happened as scheduled.

B. Mikulec added that the high intensity MTE version still gives large emittances. **K. Cornelis** said that they could take it as it is now, but **H. Damerou** confirmed the beam was not ready yet in the PS. **F. Tecker** (PS supervisor) will inform the SPS operation as soon as it will be ready.

North Area

B. Rae said that on Friday morning an un-understood RP veto cut the H4 beam. It was quickly fixed, presumably due to a REMUS problem. The Firstline was called twice this weekend for 3 SF problems in the NA62 Beam and for the TRIM1 on K12.

North Area Users

H. Wilkens said that users suffered, as usual, from the supercycle modifications due to HiRadMat.

HiRadMat

There was no report.

AWAKE

There was no report.

LHC

M. Giovannozzi said that they were running fine with the new BCS beam. They will take the Xe beam on Thursday and Friday for 3 shifts and then switch back to the BCS beam. Since the solenoid is used, there is a clear reduction of the steady state losses, but there were no more dumps due to 16L2. The solenoid effect should still be clarified.

CLEAR

There was no report.



TI

There was no report.

3. Schedule update.

B. Mikulec presented the [injector schedule](#) (version 1.5).

Concerning the MDs, **G. Rumolo** could not attend the meeting and sent the following information:

Concerning the MD tomorrow please flag for the PS physics users that in the morning there will be an MD (tagged as dedicated in the [MD schedule of Week 41](#)) that will stop all EAST users. Other than that, please note that there will be three parallel MD users in the PSB and two in the PS both in the morning and afternoon, which we had to allocate in order to satisfy all the MD requests of the week. This might lower the duty cycle for the physics users both in PSB and PS tomorrow from 8:00 to 18:00.

In the SPS we will carry on with the high intensity run (~2e11 p/b injected into SPS with both standard and BCMS users), which successfully started yesterday.

4. AOB

The maintenance of the door YEA01.PSR=152 from Thursday 12/10 - 8.30 to Friday 13/10 - 17.00 was approved.

R. Alemany said that the LEIR visitor platform was re-opened last week. The Linac3 side interlock will not be developed. The radiation level in the area will be limited by the LEIR SIS.

Next Meeting: Tuesday 17th October 2017.

Minutes reported by [JB. Lallement](#) on 12th October.