



Summary of the 35th FOM Meeting

Held on Tuesday 21st November 2017

Agenda <https://indico.cern.ch/event/681927/>

- 1. Follow-up of the last FOM*
- 2. Status of the machines*
- 3. Schedule update*
- 4. Draft 2018 injector schedule*
- 5. 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 34th FOM](#) were approved.

Concerning a question raised during the previous meeting, **G. Dumont** confirmed that the alarm on the Linac2 repeater noticed on 13/11 was due to a test performed by RP during the Monitoring Station issue in Linac3 on 10/11. This was therefore not a real Linac2 alarm. **R. Scrivens** commented that it would be nice to have the alarm repeater labelled.

2. Status of the machines.

Linac2 & Linac3

R. Scrivens reported the status of the linacs ([Annex 1](#)).

Linac2 had an excellent week with 100% availability. Some adjustment of the buncher slightly improved the linac transmission.

Linac3 had also a very good week with only 2 source trips (few minutes each). The source RF generator will be changed at the end of the year.

LEIR

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

It was a good week with 97.7% availability. The only fault that is worth mentioning for the week is related to the cavity ER.CRF41, which started to be unstable on Friday evening. It was decided to



switch to the ER.CRF43 cavity on Saturday morning and the situation is stable since. The problem affecting the CRF41 cavity will be investigated this week.

C. Rossi commented that the decision to switch to the CRF43 cavity could have been taken already on Friday evening if an RF expert had been called earlier.

PSB

GP. Di Giovanni presented the status of the PS Booster on behalf of **A. Findlay** ([Annex 3](#)).

It was a very good week for the PSB with 98.5% availability. On Wednesday an onboard power supply problem cleared the main FPGA of the motherboard and stopped the RF from working for 1.5 hours. The specialists replaced the card that generates and controls the power supplies and the crate was back online. They are keeping an eye on it in case of further problems. BT1.SMV10 was seen to be drifting once more, the experts suspected that the regulation of the supply needed to be adjusted after the change last week, and did the necessary. It has been stable since. On Sunday the BTP.DHZ10 died, depriving the PS of beam, so the EPC piquet was called in to fix it. He replaced a card on the supply and the beams were returned after 1h20. The list of available beams was given.

ISOLDE

S. Mataguez reported the status of ISOLDE ([Annex 4](#)).

It was a very good week at ISOLDE. $59\text{Cu}20+$ beam was delivered at 5.0 MeV/u to the Edinburgh chamber until Wednesday morning. From Wednesday stable $22\text{Ne}7+$ beam at 5.5 MeV/u was sent to MINIBALL from EBIS as part of the IS628 experiment and BE-ABP had machine development with the REX-TRAP and REX-EBIS using 13CO in parallel. The HRS separator was in preparation from Friday for the next 28Mg run.

ISOLDE Users

K. Johnston said it was a transitional week at ISOLDE. A new setup at MINIBALL (HIE ISOLDE) requires almost a week of stable calibration and this was the main purpose of the week since Wednesday. They have been taking 22Ne at 5.5 MeV/u, calibrating the Time Dependent recoil in vacuum setup (for the measurement of g-factors) which will start this afternoon with 28Mg. In parallel to this some machine development time looking at the injection of 13CO into REXTRAP was possible. It was a smooth week of operation with radioactive beams due to be taken again from today.

PS

D. Cotte reported the status of the PS ([Annex 5](#)).

It was another good week for the PS with 95% availability. The PS is still affected by POPS trips (11 this week) apparently due to a faulty FGC card. Every POPS trip entails a beam stop of about 10 minutes. The FGC card was already replaced, but the back-up card did not work properly. A 20-minute beam stop should be planned in the coming days to proceed with the card exchange. The list of



available beams and details was given. The integrated intensity delivered to nToF reached 109% of the 2017 initial scheduled value.

East Area

B. Rae said there was nothing special to report.

East Area Users

H. Wilkens said users were happy. On Monday, the two last users were installed and will study the tropogenic particle formations in clouds.

nToF Users

D. Macina said they had to stop today to change the experiment. Operation will resume in the evening.

AD - ELENA

B. Lefort reported the status of the AD ([Annex 6](#)).

It was a perfect week for the AD.

AD Users

H. Wilkens said that the ATRAP team is still working on the detector. Beam shifts are then transferred to ASACUSA.

SPS

H. Bartosik reported the status of the SPS ([Annex 7](#)).

It was a very good week for the SPS with 96% availability and main downtimes due to injectors.

On Monday the Xe-ion cycle with an extraction momentum of 45 ZGeV/c was set up. Already in the early afternoon the beam was extracted towards the North Area and the secondary beam line physicists could start with their setting up. The North Area had a very good beam availability throughout the week. Only minor interruptions were caused by the dedicated LHC fillings and some downtime in the injectors, most notably trips of POPS in the PS (Wednesday/Thursday) and RF cavity issues in LEIR (Friday/Saturday).

The LHC fillings went fine from the SPS side, apart from frequent trips of power converters in TI2 caused by communication problems on the WIC (investigations on-going). Since the middle of the week the intensity of the 8b4e BCS beam is lowered on the request of the LHC following several beam dumps due to losses in 16L2. On Saturday morning the LHC had to delay the beam dump due to a problem on one of the main RF transmitters of the SPS which required a piquet intervention.



North Area

B. Rae said it was a very good week with very quick energy switch.

North Area Users

H. Wilkens confirmed the very efficient energy change.

AWAKE

S. Gessner reported that AWAKE electron beams will be started tomorrow. Protons will be sent to AWAKE for 3 days from Friday next week (1-3 Dec.) and again from 9 to 18 Dec. excluding days with COLDEX and UA9.

LHC

E. Bravin reported on the LHC status.

It was a good week with 2.5 TeV until Sunday afternoon although the issue with 16L2 losses reappeared. For this week, the LHC will require standard 8b4e BCS beam with low intensity. MDs will start from Sunday and beam requirement will be discussed with injectors in due time.

CLEAR

A. Curcio reported on the CLEAR status ([Annex 8](#)).

Dielectric capillary for plasma lensing experiment and Schottky diodes on the THz bench were installed. Irradiation tests for ESA and TRAD users, measurements and optimization of transmission through the plasma capillary and background characterization of the THz signal were performed.

Linac4

G. Guidoboni reported the status of the Linac4 ([Annex 9](#)).

The low energy transmission was optimized by adjusting LEBT parameters. Beam instabilities over the pulse were observed and are probably coming from RF (investigations on-going). There were MDs on the source, pre-chopper and Bunch Shape Monitor. From Friday, operation was perturbed by a pre-chopper issue (fixed on Monday) and a fault on the RFQ modulator (being investigated).

TI

R. Ledru said there was nothing worth mentioning.



3. Schedule update.

B. Mikulec presented the [injector schedule](#) (version 1.8).

The LHC MD will start on Sunday. **H. Bartosik** said there will be a dedicated MD in the SPS (no beam for the NA) and he replied a question from **D. Macina** confirming that the LHC MD should not affect nToF.

4. Draft 2018 injector schedule.

R. Steerenberg presented the [draft injector schedule for 2018](#).

The schedule is partly based on LHC activities such as MDs and TS such that any change in the LHC schedule will affect the injectors' one. There is a very busy MD programme in 2018 as many MDs have to be completed before LS2, UA9 crystal collimation and crystal assisted extraction is now to be counted as MD and Crab cavity tests in SPS have to be absorbed in MD time. There are only two injectors technical stops planned in the shadow of LHC TSs.

Q1: Controls maintenance was shortened to 4 days, Linac4 closing and CLEAR start dates to be added. 1st LHC beams (Probe/Indiv) to be ready for TI2/TI8 tests on 22.03.

A. Curcio said that CLEAR will start on the 12/02.

Given the constraints brought by the lock-out and decabling project, **J. Ferreira, S. Deleval** and **C. Rossi** said it was excluded to close the PSB and the PS on the 15/02 (most probably on the 21st). **R. Steerenberg** will meet with the re-commissioning coordinators to refine the restart schedule.

Q2: LHC will once again restart around Easter. Beside usual Wed. MD blocks, there will be parallel MDs in the SPS on Tuesdays and that will affect the NA duty cycle. 2 HiRadMat runs are scheduled on weeks 19 and 22. The first injector technical stop is scheduled on week 25 (30 hours starting on Tuesday).

Q3: Second technical stop scheduled on week 38 (30 hours starting on Tuesday). 2 HiRadMat runs are scheduled on weeks 27 and 31.

Q4: 4 week Pb-Pb LHC run starting from the 04/11. NA ion 4 week run starting one week later. RP survey will be added to the schedule.

H. Vincke said that AWAKE can run until a later date without compromising the LS2 cool-down. It should be checked for the AD.

A new version will be presented and discussed at the next week's FOM. It will be presented at the IEFM on Friday December 1st.

5. AOB.

There was no AOB.



Next Meeting: Tuesday 28th November 2017.

Minutes reported by [JB. Lallement](#) on 23rd November.