



Summary of the 15th FOM Meeting

Held on Tuesday 4th July 2017

Agenda (<https://indico.cern.ch/event/650685/>)

- 1. Follow-up of the last FOM*
- 2. Status of the machines*
- 3. Update on technical stop activities*
- 4. Schedule update*
- 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 14th FOM](#) were approved.

Concerning the [open action](#) on FGC power converters, **C. Mugnier** reported on the conclusion of the meeting with FGC developers ([Annex 1](#)). The new systems will include two DCCTs. Every DCCT will be equipped with a Dallas chip (similar to LHC). Every DCCT head will be checked and properly tested. The CCC will be informed every time a new DCCT is installed. A commissioning and installation procedure is being set up.

The action was closed.

2. Status of the machines.

Linac2 & Linac3

F. Di Lorenzo reported the status of the linacs ([Annex 2](#)).

It was a very good week for Linac2 with 100% availability.

The Linac3 availability was 99.4%. The few downtime were due to trips of the source RF Thomson amplifier.

LEIR

S. Pasinelli reported on the LEIR status ([Annex 3](#)).



The week was mainly devoted to studies on the ITE BPM (Calibration & Control debugging), setting up of Xe39 NOMINAL cycle (Orbit & E Cooler), LLRF setting up on the cycle EARLY & NOMINAL and providing EARLY beam to the SPS for setting up.

Few faults occurred during the week: The CRF43 went in fault and it was not possible to switch the cavity back on. The spare cavity CRF41 was then switched on. Specialists found a problem on an electronic module and with 2 power supplies in the PLC. They went back on CRF43 yesterday. The vertical kicker for the tune measurements is not pulsing. Until the return of the specialist, the beam can only be excited with the damper (Chirp excitation).

PSB

JF. Comblin presented the status of the PS Booster ([Annex 4](#)).

The main problem for the Booster over the week was the issue with the C16 cavity of ring 3. An access was required Monday and lasted longer than estimated. It generated a 6 hour downtime and delayed the LHC fill by 2h30. Investigations continued on the surface, but the problem is not yet understood. As the operational beams were not much impacted, it was agreed during the last week FOM that further investigations in the ring could wait until the technical stop. For the LHC and SPS MDs of the week-end, LHCINDIV-type beams were switched from ring 3 to ring 2 to use the longitudinal shaving as usual.

Otherwise, the week was busy with lots of MDs: Finemet studies, phase noise blow-up, tune shift vs chromaticity, wire scanner prototype tests etc...

The ring3 vertical wire scanner will be replaced during the technical stop.

ISOLDE

L. Fadakis reported the status of ISOLDE ([Annex 5](#)).

It was a very smooth week for ISOLDE.

For GPS:

The new target (#605) was installed on Friday. This will be the target to deliver first RIB to Miniball.

For HRS:

ISOLTRAP is taking beam (114, 126, 128, 129Cd) since Tuesday afternoon.

The only issue was on Sunday noon when a HT FEC and a few power supplies in CA0 tripped at the same time. After a reset things returned to normal. The HRS experiment stopped on Monday midnight (was initially planned at 9 AM) because of an issue with the vacuum in the RFQ. The vacuum piquet could not be reached certainly because of a problem with cell phone coverage.

J. Ferreira commented that if the first piquet cannot be reached, the second piquet should be called.

For HIE-ISOLDE:

All 15 SRF cavities were successfully phased on Wednesday with a beam of $A/q=3.5$ and $E=6.62$ MeV/u. They were then scaled to $^{22}\text{Ne}^{6+}$ and $^{39}\text{K}^{10+}$ (in preparation for the first RIB run). The beam line was set up for $A/q = 4.0$, $E=6.6$ MeV/u. On Friday stable beam, $A/q=4.0$ and $E=5.5$ MeV/u, was



delivered to the users (Miniball). There were a few SRF trips during nights throughout the week that were easily restored by turning them back on.

ISOLDE Users

K. Johnston said that it was a good week at ISOLDE. One of the more complicated target and ion source combinations involving a quartz line (and which is very fragile) was operated very successfully to deliver neutron rich Cd isotopes to the ISOLTRAP experiment. The focus was precision mass measurements on Cd isotopes, which are important for the r-process in nuclear astrophysics. ^{132}Cd was successfully measured for the first time and this was complemented by ^{131}Cd , ^{129}Cd and ^{127}Cd . Smooth running until the failure of the RFQ on HRS, and the experiment managed to complete their program.

PS

I. Efthymiopoulos reported the status of the PS ([Annex 6](#)).

The PS was smoothly running with an excellent overall 97.1% availability.

PS delivered beams to East Area (including IRRAD), nTOF (6.8 Tp/pulse, 5.86 E18 pot cumulated over the year, corresponding to approx. 32% of the yearly planned), AD, SPS (15.7 Tp/pulse) and all varieties of LHC beams including those for the MDs since Friday 30.06. The Xenon beams from LEIR were also prepared at early (1.6×10^{10}) and nominal intensities and sent to the SPS.

On the problems side, the major events were on Thursday afternoon when the machine went down for 15 mins following a power glitch. In the same afternoon soon after filling LHC an access was given to repair the cavity C51 (~1.5h downtime). The few remaining faults during the week are below the 15min threshold, and there was a transient problem with one wire scanner stuck in the beam.

6 MDs were planned over the week, each of several sessions, in particular that of studying the machine behaviour and instabilities when approaching the integer tune. Work also continued on the MTE extraction trying to optimise the imbalances between the islands to improve the capture at the SPS in view of the later operation at higher intensities. This needs to be further looked at.

The ToF delivered integrated intensity is well on schedule.

East Area

B. Rae said that it was a very good week for the East Area.

East Area Users

H. Wilkens said the users were happy.

nToF Users

F. Mingrone said it was a very smooth week. The next experiment is being installed in EAR1 and will start after the technical stop.



AD - ELENA **P. Freyermuth** reported the status of the AD ([Annex 7](#)).

It was a good week for AD with no major failure. There were few night interventions by the PS team to solve experimental line power supply faults (First Line called). The MTG fails the PS-AD synchronization when a new super-cycle is uploaded, resulting in an empty AD cycle. While it's a known and reported issue (and hard to solve), it can represent more than 5% of the AD cycles on days with many supercycle changes.

AD Users

H. Wilkens said that the ATRAP experiment is still in cool-down period prior to the intervention.

T. Eriksson said that ELENA will be stopped for 2 weeks from next Monday for the GBAR beam line installation.

SPS

K. Cornelis reported the status of the SPS ([Annex 8](#)).

It was a rather good week. HiRadMat was finally finished on Tuesday. As there were no MDs on Wednesday the beam production for FT was good with a slightly improved MTE. Xe-ions were injected for the first time in the SPS on Thursday. They could be captured and accelerated on the MD cycle. During the weekend different beams were produced for the LHC MD. A big effort was made by the CPS to reduce the emittance on the high brightness bunch, 1.5 μm for 2×10^{11} protons. The COLDEX run started yesterday evening with high intensity 25 ns beam and is going pretty well.

H. Wilkens commented on the good performance of the SPS that directly increased the integrated intensity delivered to T6.

North Area

B. Rae said it was a very good week.

North Area Users

H. Wilkens said it was a good week for the users.

HiRadMat

B. Rae said that a new experiment was being installed.

AWAKE

There was no report.



LHC

R. Steerenberg said it was a very good week and they achieved the current luminosity record of $1.58E34\text{cm}^{-2}\text{s}^{-1}$. The integrated luminosity since the beginning of the run is 6.5 fb^{-1} . These good performances are also due to a availability above 50%.

TI

J. Nielsen reported on the power glitch that occurred on Thursday and on some access system database problems this morning.

3. Update on technical stop activities

Linac 2 & 3

C. Mastrostefano presented the list of [Linac2](#) and [Linac3](#) technical stop activities. They were similar to what was presented at the previous FOM. It is planned to close the Linac2 tunnel at 3.00 PM on Thursday and the beam should be back in the linac by 5.00 PM. As the same team is dealing with the two linacs, Linac3 will be restarted once Linac2 is running.

LEIR

R. Alemany presented the list of [LEIR technical stop activities](#).

There will be some modifications and some cabling activities for solving the ITE BPM issue. They are documented in an ECR.

PSB

J. Coupard presented the list of [PSB technical stop activities](#).

Main activities are the investigations on the R3 C16 cavity and the wire scanner replacement. The high voltage on the distributor will be pulsed in the afternoon on Thursday once the access is finished.

PS

J. Coupard presented the list of [PS technical stop activities](#).

There are no new activities with respect to what was presented at the previous FOM. The main activity being the repair of the water leak. **A. Berjillos** is replacing **S. Mataguez** and **D. Hay** as coordinator for the technical stop. **F. Tecker** added that the PFW test will take place during the RP survey.

SPS



D. Macfarlane presented the list of [SPS technical stop activities](#).

The activity list is similar to what was presented at the previous FOM. The RP survey in BA3 will take place outside of working hours. Due to the long lift maintenance in BA5, the activities taking place in BA5 were added to BA4 and BA6.

M. Gourber-Pace said that the control system will be operational for the Linac2 restart at 3.00 PM on Thursday. **C. Mastrostefano** said that considering that the linacs are the first machines to be restarted, the CO team should first come there if any intervention on the consoles is planned.

4. Schedule update.

B. Mikulec presented the injector schedule version 1.2 ([Annex 9](#)).

The HiRadMat run will be postponed by one week (week 28 to 29).

5. AOB

There was no AOB.

Next Meeting: Tuesday 11th July 2016.

Minutes reported by [JB. Lallement](#) on 6th July.