



Summary of the 38th FOM Meeting

Held on Tuesday 12th December 2017

Agenda <https://indico.cern.ch/event/687005/>

1.1.	Follow-up of the last FOM
2.2.	Status of the machines.
3.3.	Schedule update.
4.5.	AOB

1. Follow-up of the last FOM

K. Cornelis chaired the meeting in behalf of **B. Mikulec**.

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

The [minutes of the 37th FOM](#) were approved.

2. Status of the machines.

Linac2 & Linac3

R. Scrivens reported on the Linac2 and Linac3 status ([Annex 1](#)).

Linac2 and Linac3 had a good week with 100% availability.

Some stripper foil tests were performed in Linac3 and Linac3 continues on Monday the 18th December.

LEIR

D. Nicosai reported on the LEIR status ([Annex 2](#)).

It was generally a good week (98.2% availability) with minor problems except for two events. On Tuesday, the KFH32 tripped several times due to a short circuit failure. The piquet took some measurements without any insights. On Saturday, the e-cooler showed some problems. The ER.ECTSOL tripped several times, and after a reset by the PIPO the problem returned. On Sunday, the PIPO and the major events piquet solved the problem by replacing the DCCT chassis.

This caused a downtime of about 3 hours.

PSB

S. Albright presented the status of the PS Booster ([Annex 3](#)).

It was a quiet week. On Monday night, due to several trips of R2 TFB, the LL-RF piquet had to be called. He performed a power-cycle on the crate and some adjustments. From Tuesday until



Wednesday the MEDICIS run took place. On Tuesday, the Finemet reliability run ended without faults since 21st June. A 1h beam stop on Wednesday was caused by an exchange of the tuning loop amplifier, which solved the noise on the R2 phase loop. In parallel, the low-field NMR problem was repaired for the operational B-train. On Sunday BR2.C04 tripped. The HL-RF piquet had to replace the power amplifier (non-blocking fault). The beam for COLDEX was checked and optimized.

PS

A. Guerrero reported the status of the PS ([Annex 5](#)).

It was a good week with faults mostly caused by injectors. The beam permit for sending ions to CHARM was signed on Tuesday morning. Two stops were programmed, one on Tuesday afternoon to replace one camera in the F61 line (1h15min beam down) and one on Wednesday to replace a PBL card for POPS and to restart the timing (20 min down). All cameras in the line up to T8 broke one after the other in a short time either due to their end of life or due to the ions. Only one camera was replaced after the split to be able to finish the set-up. Since Wednesday CHARM takes Xenon blown-up beam with an extracted intensity in PS of 1.5×10^{10} charges. The Xenon beam for physics was equally sent all week to SPS with also 1.5×10^{10} charges extracted. Since the exchange of the card in POPS no other trips have occurred. During the weekend the beam was prepared for COLDEX. On Monday, there was a downtime of 1.5h where a power amplifier of cavity C46 was replaced, but the issue is not yet solved. Another access is required.

East Area

B. Rae said it was a very good week, and there is no beam since Monday.

East Area Users

H. Wilkens said there are no more users except for CHARM.

AD - ELENA

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

Only minor problems occurred. There is still a problem with a leak of the special cooling water circuit for the electron cooler collector, but with 'preventative' filling, it is possible to manage to avoid most problems. There were problems with stochastic cooling due to nine power amplifiers that are out of business. Because of this the experiments had to accept an intensity of $\sim 2.7 \times 10^7$ extracted instead of the normal 3.0×10^7 . The septum and the cavity were reset and the e-cooler power supply overheated. The total uptime was 97.5%.

R. Froeschl asked where the water out of the leak was dropping.

L. Bojtar answered that the leak is a water reservoir like a toilet tank on the ceiling, but the leak is very small so one cannot see a problem around it. The air conditioning dries the air so you cannot find water on the floor.

T. Eriksson asked what the problem with the septum was.

L. Bojtar said the problem occurred at the extraction septum and was solved by a reset. He did not know more about it.



AD Users

H. Wilkens: Everything was fine for AD users. An issue is the helium delivery because there is a big construction site at restaurant 2 blocking the way. This blocking should be over on Wednesday, which is too long concerning the currently available helium.

K. Cornelis asked if there is another way to get the helium maybe in smaller packets.

L. Bojtar that there is no solution at the moment, but the problem will be tackled right after the meeting.

T. Eriksson presented the AD yearly statistics ([Annex 7](#)).

He showed the yearly intensity variation starting at the end of April. In May, there was the maximum intensity, but then there were problems with the tuning of the injection line. Several other issues also reduced the performance. 3.41×10^{12} anti protons were accumulated in total over 15737 cycles. 5200 hours of physics were mastered. The availability was around 95,2%. The faults are "50/50" divided between the machine and the injectors. The power supply category was the biggest contribution to the faults. There was nothing particular compared to the previous years.

T. Eriksson reported that ELENA is closed and locked out. The electron cooler has been installed. Only some alignment issues have to be sorted out.

SPS

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

It was a very good week for the SPS with 95.7% availability. The ions run very well, and on Thursday there was the switch to the last and lowest energy in the list (31 ZGeV/c). It runs as good as it can, because at these low energies the signal to noise ratio on the power supplies is already critical. Concerning the ions for AWAKE, there were problems on the weekend with protons. There was an issue with the veto on the laser shutter preventing simultaneous proton beam and laser operation. According to the specialist, the issue appears to be a result of the modifications made to enable the electron gun commissioning. The investigations are still going on and AWAKE got no beam. COLDEX was taking the beam from 20:30 with a rather poor quality, because there was a problem with a cavity, with the need of a spare, which showed a problem with the phase lock. This morning there was an issue with turning on the mains (after the access) and the start of UA9 is delayed. From Wednesday, normal operation is expected and hopefully, the AWAKE problem will be sorted out by then.

North Area

B. Rae thanked for the fast energy change. He mentioned that the beam was back on Thursday.

North Area Users

H. Wilkens said NA61 gets Xenon ions at the end of the spill. The power converters are unfortunately not stable.

K. Cornelis said that this is due to the low energy and this operation is at the limits of the power converters. There is nothing what can be done about it.



AWAKE

E. Gschwendtner reported that over the weekend there was the commissioning of the electron line. Switching on the proton beam was not possible because there was a problem with the access system. Today there was a change of the software and also a DSO test is included. It is planned to have proton beam on Wednesday until Monday. In addition, the plasma cell was heated up today and work was done on the plasma and on the laser as usual.

CLEAR

A. Curcio reported on CLEAR.

There was the installation of the new plasma lens design. Measurements of the plasma lens were taken and no major issues have to be reported.

Linac4

S. Schuh reported the status of the Linac4 ([Annex 9](#)).

A very good availability was reported with 95.4% with periods of long stable running and a few faults of the Source/RF and chopper, as well as extensive MD time. An issue in the chopper maximum chopper on time was found and solved, avoiding a fault from excessive driving term on one of the plates. Higher source current fluctuations were observed since Sunday midday triggering the WD perpetually, which is now under investigation. Systematic stripping foil efficiency measurements were performed. A source cesiation with the autopilot was performed successfully without manual intervention, but a source tuning afterwards was necessary. This is needed due to a change of a piezo valve to a solenoid valve. It was unavoidable, because the piezo valve is not produced anymore. Since the autopilot, looking for the optimal working point, was developed with the old valve, it did not work properly. There is no experience with the new solenoid valve (timing-instead of voltage-based). The autopilot can be set up without beam.

Extensive MDs were done for the source, Time of Flight measurement, Laser Emittance Meter and Bunch Shape Monitor.

TI

J. Nilson was not available and sent a report:

Thu 07/12/17 20:29

Many missed calls have been noted lately, and traced back to a poor network coverage of the CCC. TI missed quite a few important calls, that should have been forwarded to the GSM and although the TI operator was in the CCC the calls didn't come through.

Sat 09/12/17 01:51

Electrical perturbation, caused all injectors to trip. Confirmed by RTE as a perturbation on the 220kV network.

Sat 09/12/17 11:09

Water leak in BAF3, detected by an alarm of too frequent filling on the cooling station. A cooling flexible was detached from its support. TI and CV piquet isolated the circuit for the Weekend in agreement with SPS operators. See event



3. Schedule update.

K. Cornelis presented the [injector schedule](#) (version 1.8).

It is the last week. Today there is the UA9 run. Afterwards Xenon beam will be continued for ion physics in the SPS and protons for AWAKE and AD. On Monday morning, the beam stops for almost all facilities at 06:00. Only low energy beams could continue till 08:00.

4. AOB

A. Bland mentioned an AOB concerning the password change for the operator accounts. The change will be done on the 10th of January as usual.

Next Meeting: 20.02.2018.

Minutes reported by [S. Hirlander](#) on 13th December.