

Minutes of the 25th FOM meeting held on 23.09.2014

Agenda:

- 1) Status of the Machines
- 2) Schedule Updates
- 3) AOB

1 Follow-up of the last meeting

The minutes of the 24th FOM meeting were approved.

Pending actions:

There were no pending actions.

2 Status of the Machines

Linac2 (J.B. Lallement)

It was a positive week for the Linac2.

PSB (A. Findlay)

It was a good week for the PSB, reasonably quiet and with good up time.

On Tuesday an emergency stop was pushed accidentally, taking the beam down for about 20 min.

A water leak inspection occurred on Wednesday in the shadow of the PS interventions and the lack of ISOLDE beam request. Various accesses on the list were allowed and beam was off between 13h15 and 15h45.

On Thursday the synchronization for the AD beam stopped working correctly around 11h00. The LL RF specialist and the machine supervisor worked closely on the problem and found that the source of the problem were reflections on the timing cables. The AD beam was back by 13h30 and investigation are on going to understand why the problem occurred only to the h=1 beam.

The SFTPRO h=2 beam was worked on throughout the week, and R4 accelerated the nominal 600E10 by Friday afternoon. The LL RF specialist and the machine supervisor are still trying to explain why this ring is so sensitive.

A power glitch on Friday night took the beam out, but the operator had it back up and running after 20 min.

A power glitch on Sunday evening took out a few elements, but the normal situation was recovered after 10 min.

Next week the Finemet test will take place.

ISOLDE (M.-L. Lozano Benito)

It was a positive week for ISOLDE.

HRS: On Tuesday the beam was dedicated to ISOLTRAP and WINDMILL and for target yields checks. The separators magnets power supplies were tested and worked as expected.

On Wednesday the beam was sent to ISOLTRAP and WINDMILL. During the day the Faraday cups readings froze quite often. The problem occurred on all Faraday cups at the same time and could even be observed on the expert application.

On Thursday, there were no protons on the target during the morning due to a planned intervention on the GPS frontend. The target and the line heating dropped during GPS intervention due to a mistake. But after restarting it, the normal operation condition was re-established. An INCA update was deployed to fix a bug. After the update, the target and line heating stopped. A simple restart solved the problem. After the interventions the beam was delivered for ISOLTRAP and WINDMILL.

On Friday the beam was sent to the users during all the day.

On Saturday most of the time was dedicated to the physics and in addition the beam was tuned for COLAPS.

On Sunday the beam tuning for COLAPS continued. Users called the CCC because both separator magnets power supplies had an error. A reset solved the problem.

On Monday the target was exchanged.

GPS: On Tuesday the target was cooled and exchanged.

On Wednesday, following the target exchange, the target clamps potentiometer were replaced.

On Thursday, during an intervention, a short circuit was developed on the new potentiometer and a second intervention on the frontend was needed to fix the problem.

On Friday one of the power supplies on the frontend (YGPS.SCRMAG) broke down. The first line was called but he was not responding. The expert was then contacted and the power supply was replaced quickly. Some issues with the logbook (unavailable from time to time) perturbed the operation. K. Cornelis commented that there were similar problems in the SPS. During the day the beam tuning continued together with the proton scan and yield checks. The target was still outgassing and the beam profile was not nominal. Anyway finally the machine was set up for the target team. Beam collections took place during the night.

On Saturday the data acquisition continued.

On Sunday the users called the CCC because the separator magnet power supply was down and spoiled the data acquisition during a couple of collections. Power supply was restarted and the data recording could continue smoothly.

Yesterday (22 September) the implantations on SSP took place until 12h30 when the beam was stopped for HRS target change. There were some problems with the deflectors movement that were solved by C. Mitifiot. Unfortunately this intervention changed the stepping motor calibration for the implantation chamber. Two implantations were lost before the problem was discovered and solved in the night.

R. Scrivens asked if the CO problems encountered by ISOLDE were occurring also before LS1. M.L. Lozano Benito answered that it is a mixture of new and old problems.

ISOLDE Users (M. Kowalska)

HRS and GPS users are satisfied. It was a fruitful week.

PS (A. Guerrero)

Two long beam stops affected the PS this week.

On Wednesday the scheduled 54H and 68H wire-scanner exchange took place. Beams were stopped at 07h00. The intervention went smooth and the pumps could be switched on as

expected by 10h30. The vacuum pressure did not lower as expected therefore a second detection leak had to be envisaged. No leak was found. The stop allowed several other pending accesses and perturbed LEIR operation. The machine was closed for access at around 15h00 as foreseen. By 21h30 beams could be switched on again without major problems with a total downtime of 14 h and 30 min (less than initially expected).

On Friday, at 10h00 a condition in TOF primary area was lost. As a result the PS switchyard and ring fell down. The beam was back by 13h00. Electricity had been cut off in TOF primary area for works. After some investigation it was found out that a battery expected to last 4 h stopped working after 2 h and a patrol box lost the power. Even if initially the wired loop was not lost it was necessary to perform a patrol. Some minutes after the EAST beams could start being delivered again, POPS went in fault due to a fire central unit alarm. The investigation showed that a vacuum pump had been switched on in the contiguous building B367 for MTE kickers, which actually produced smoke. All these events resulted in all beams stopped during 3 h. In particular SPS beams had been already affected by a problem on the 10 MHz cavities from the night before and were running with very low intensity. The cavities were back by 14h00.

In addition on Tuesday there was an accidental emergency stop that stopped all beams during 30 min.

PS has been producing the usual operational beams, EAST, TOF and AD normally (AD got some alarms problem). Low intensity SFTPRO and LHC25ns 12 bunches have been sent to SPS all along the week.

During the week the work has been focused on the LHC25ns 72 bunches beam with double injection (4+2 bunches from the PSB) and TOF intensity increase.

R. Scrivens asked about the condition of the wire scanners. E. Piselli answered that they were calibrated during the last week and the calibration will be deployed in the software between today and tomorrow. E. Benedetto asked if the wire scanner could be used during the MD studies. E. Piselli answered positively (no need to ask the shift leader anymore) reminding that the limit of the 10 s between two scans still remains. J. Betz asked if the 10 s checks will be done in the FESA class. A. Guerrero commented that it is not foreseen to change the FESA class and the 10 s limit should be a short time lasting precaution.

East Area (L. Gatignon)

The Beamline for Schools run in T9 was completed successfully. The analysis will go on in the schools.

On Sunday First Line came in to change a regulator card on ZT10.QDE01. For the moment

the rectifier runs but not at the highest current. Further test will take place on Wednesday.

On Monday (22 September) CLOUD run should have started. Various first line calls during the week to get all rectifiers to work (short circuit in ZT11.BVT1, broken fan on ZT11.QDE4). Now all the hardware is working as expected. CLOUD will probably take its first beam today in the afternoon (23 September).

Several interventions in ZT8B are foreseen for tomorrow (24 September). DSO tests for CHARM and IRRAD will take place on Friday morning at 09h30. EAST beams will be stopped during the tests.

East Area Users (H. Wilkens)

T9 and T10 Alice users are satisfied with the present beam condition.

nToF (S. Montesano)

nToF started the measurement campaign of the background.

AD (B. Lefort)

The AD intensity is still 30% below the nominal one, there is a stability problem with the orbit at injection (~8 mm orbit jitter) and the e-cooler is not working as expected about once each ten cycles.

Last week BASE and AEgIS started the physics acquisition and first antiprotons were captured.

Operation was perturbed by problems with the RBAC authentication issues.

Depending on the users the beam intensity has to be adjusted not to trigger the RP alarms. Helmut Vincke commented that the problem is due to the difficulties to have a common implementation of the shielding in experiments with different configuration.

B. Lefort reported that the sound level of the RP alarms is too low and should be increased.

AD Users (H. Wilkens)

BASE users are satisfied with the present beam condition.

SPS (K. Cornelis)

Beam is circulating in the SPS since the previous weekend. On Monday and Tuesday a first round of orbit measurements took place in view of the realignment.

On Tuesday evening there was a false fire alarm in a power supply for RF in BA3. The same sensor had already been giving false alarms in the previous weeks.

The first realignment campaign was done on Wednesday during the PS intervention for the wire scanners (5 quads in each plane were moved).

On Friday afternoon the second round of orbit measurements for realignment took place. The second realignment campaign was done on Saturday morning (4 quadrupoles in H and 6 in V).

The setting up of the slow extraction started on Saturday afternoon. It was found that the new SEMgrid in the ZS was still not working after LS1 (it should be fixed this week). In addition a corrector polarity was found inverted (MDLV.210218). For the moment the early dump cannot be arbitrarily set to any value but only to a gradually increased energy starting from the end of the forbidden zone, in order to condition the kicker. The SEMgrid in front of the dump was not working because the cables were not plugged in. This was corrected during two interventions.

During the week the LHS 25ns beam was circulating and used to condition the machine elements. Currently two batches of 12 bunches are injected.

The QD is still working on the spare power supply; TE/EPC needs about half a day with no beam and no one inside the machine to switch to the normal one and test it. It was found that turning off the light in BA1 trips the MKD, through the differential personnel protection system. Until the problem is fixed, EN/EL has blocked the automatic switch-off timer. K. Cornelis requested to inform the SPS team if PS will plan a stop longer than 2 h in order to solve the cabling problem of the switch-off timer in BA1.

[CTF3 \(\)](#)

No news.

[IONS](#)

[Linac3 \(J. B. Lallement\)](#)

For the last week there was to mention only an alarm due to a trip in the RF cavity.

[LEIR \(J. Axensalva\)](#)

J. Axensalva sent an email before the FOM:

“It was a quiet week for LEIR, we did not suffer any big or long problem so that the beam was available all along the week. No special event or trouble occurred during the week on LEIR equipment. We spent the beginning of the week optimizing the intensity delivered to the PS (up 1E10 charges during the best shots).

With the help of Mike and Greg, we now understood the troubles we have with LSA, we have started to clean and rebuild the system, tests are ongoing and the coming weeks will be dedicated for the continuous improvement of the machine.”

PS (A. Guerrero)

Ions were back in the PS on Thursday.

TI (P. Sollander)

There were two thunderstorm trips during the weekend.

3 Schedule Updates

The Injector Schedule (v1.7) is available at

https://espace.cern.ch/be-dep/BEDepartmentalDocuments/BE/Injector_Schedule_2014.pdf

Next week the DSO test for the NA will take place. L. Gatignon commented that the DSO test would take three days.

AOB

There were no AOB.

The next FOM meeting will be held on the 30 September. The agenda will be communicated in due time.

Minutes edited by G. Sterbini.