

Minutes of the 14th FOM meeting held on 08.07.2014

Agenda:

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

1 Follow-up of the last meeting

The minutes of the 13th FOM meeting were approved.

Pending actions:

There is no open action.

2 Schedule Updates

K. Hanke presented the Injector Schedule (v1.6). It can be found at

https://espace.cern.ch/be-dep/BEDepartmentalDocuments/BE/2014-injector-schedule_v1.6.pdf

The ISOLDE DSO test will be held on the 21 July. The nToF DSO test has still to be scheduled whilst nTOF will take beam on the 24 July.

K. Hanke informed that Linac4 DSO tests are foreseen on the 17 July. Last time this impacted on PSB operation.

3 Status of the Machines

Linac2 (D. Kuchler)

On Thursday morning the source stopped due to an interlock of the BLMs. The problem was solved by rebooting the front-end.

PSB (K. Hanke)

Throughout the week work continued by the LLRF and OP teams to bring up the intensity and to optimise the PSB beams. On request of the PS the following beams have been prepared throughout the week: EAST, TOF, the SFTPRO (h=1), ISOLDE and LHCINDIV.

On Tuesday morning (1 July) access was given (synchronised with PS alignment) to fix a number of issues that had accumulated in the PSB (alignment, cabling, BLMs, other BI issues...). When re-starting the power piquet was needed to bring the MPS back on. C. Mugnier commented that the problem was due to an EIS device.

Numerous BI issues were addressed. There are still a lot of BLMs not working (access this

morning).

On Friday, the Linac4 DSO test perturbed the PSB operation.

On Saturday there was a problem on the recombination kicker.

Monday morning there was a beam stop for an access for the alignment of PS magnets and to fix faulty BLMs in the PSB.

The FGC3 power converters are not working as expected, producing high beam losses. An action was opened (FGC3 team).

PS (R. Steerenberg)

Last week was mainly dedicated to the beam based realignment and further setting-up of the different RF beam controls and cycles for operational beams.

Following the orbit measurement and simulations made on Monday (9 July), magnets were moved on Tuesday (6 in horizontal and 3 in vertical) in order to optimise the orbit. The horizontal correction was according to the predictions. However, the vertical orbit showed an improvement in part of the machine whereas another part showed large orbit excursions. After detailed investigation it turned out that the orbit data from the orbit measurement system was shifted, due to the introduction of new BPMs.

On Friday the three voluntary displacements for the vertical plane were removed and new orbits were measured and simulated. Yesterday two magnets were moved to finally correct the vertical orbit, which was confirmed by measurements made yesterday afternoon.

The newly installed Finemet cavity seems to suffer from a beam induced resonance at 40 MHz, even when the gap relays are closed. Yesterday some of the gaps were short-circuited and further investigation will take place.

For the East Area primary beam line there is an issue related to the control of the marguerites that are equipped with only screens. The marguerites that contain targets have been renovated. The other ones have not been renovated, but the old control has been removed. Presently OP is in discussion with EN-STI, BE-BI and BE-CO to establish a working situation. Any delay in the availability of these systems could potentially delay the start of physics in the East Area.

This morning there was a database issue that slowed down OASIS. The database team is looking into the issue.

For the coming week the plan is

- The PSB-PS energy matching, using the 4 ring LHCINDIV
- Phasing of the 200 MHz cavities for which the PS will use an SFTPRO injecting an harmonic 1 SFTPRO from the PSB

- Re-establish the marguerites control in the East Area primary beam line.
- Introduce (commission with beam) the dummy septum (TPS15) and adapt the extraction bump for all users.
- Standardise the PSB ejection and PS injection timings and adjust them coherently for all users, with the aim to establish clear operational references.
- From Thursday onwards start setting up the East Area slow extraction and the East Area beam lines, as physics will start on Tuesday 15 July.

SPS (K. Cornelis)

The cold check-out is progressing well with the co-activity between the powering tests, cold check-out activities and the numerous accesses still required. Magnet polarity checks progress well and the errors will be corrected.

Last week aluminum pieces were found in the beam dump that might come from one of the dump aluminum blocks. Aperture measurements made last year did not show any sign of presence of these aluminum pieces in the beam path. This afternoon an endoscopy should confirm if those pieces come from the suspected aluminum blocks. Installing a spare dump will involve substantial work and a delay of 6 to 8 weeks to the restart. Besides that it will also cause outgassing issues, in particular for higher intensity and LHC beams. However, it is too early to announce any delay.

K. Cornelis reported that the video for the accesses is often frozen. A. Bland added that it can be related to a network problem. A. Bland is following this up.

ISOLDE (P. Fernier)

GPS

The target was changed on Tuesday (1 July). The new target is #506.

This week beam was available for RILIS studies. The machine is ready.

They are waiting for the Faraday cup FC20 to be repaired and reinstalled on the front-end.

J. Parra Lopez changed the power distribution crate used for the line heating. There were problems to open/close clamps and shutters of the target.

HRS

There is stable beam from the front-end until the RFQ. The turbo pump on the RFQ has been repaired and the He injection on the RFQ is now working in local but not in remote mode. The robots are undergoing calibration.

M. Kowalska expressed her concern about additional delay on the present schedule.

nToF ()

S. Hancock asked if the installation of EAR2 is complete. R. Steerenberg that the installation is on-going until the 15 July and that beam will be sent to nToF from the 24 July.

East Area ()

L. Gatignon sent an email before the FOM:

“The three critical issues mentioned last time have all been solved thanks to the teams who did a lot of work for meeting the schedule.

- The interlock for F61.QDE2 gas been repaired (fault on the cable)
- The marguerite replacement target has been installed and aligned
- The beam stoppers have been commissioned and tested with new compressed air supply.

The DSO test or the primary was done successfully on Monday (6 July) and the one for T9, T10 and T11 zones will be done very soon.

There is still some work to be done, among which are on the critical path:

- cabling and commissioning of RAMSES to be complied
- many checks (e.g. magnet statuses via working sets)
- some work to be completed in T8B zone.”

R. Steerenberg added that it was agreed with L. Gatignon to interleave beam commissioning until the East Area dump with the last interventions and activities in the secondary zones.

AD ()

No news.

Linac3 (D. Kuchler)

The ion pumps are losing their performance with the Argon beam. If the problem persists, they have to be replaced.

LEIR (D. Manglunki)

On Tuesday (1 July) LEIR took beam from Linac3.

The visitor platform will be locked and condemned until RP measurements confirm radiation level low enough for visits. VIP visit is planned on 18 July. A procedure was established in collaboration with the Safety Unit to suspend the beam permit.

On Wednesday (3 July) the beam permit was signed and the first beam was injected.

Thursday and Friday was devoted to solve various problems (timing, power supplies, magnet water flow...) with the help of many specialists from BE/OP, BE/CO, TE/EPC, TE/MS, TE/ABT etc.

On Friday morning there was no beam due to the PS access.

On Saturday 5 July beam was injected in the machine. It turned out that some functions were not generated correctly. The procedure for trimming the momentum does not work as expected.

On Sunday (7 July) there was no beam in the morning as ITE.BHN30 tripped (no alarm on LASER). TE/EPC was called it restart it. The beam was injected but the beam was not circulating since all machine elements have to be trimmed.

On Monday (7 July) there was no beam because of PS access.

Today (8 July) the OASIS signals are not available therefore the few available diagnostics was lost.

TI (C. Wetton)

On Wednesday (2 July), the thunderstorms did not affect the complex but on Monday (7 July) there was a small electrical perturbation that was seen by the SPS RF.

4 AOB

V. Baggiolini announced that on Wednesday 16 July there would be an intervention on the CCDB database between 08h00-09h00. It should be transparent for the operation.

The next FOM meeting will be held on the 15 July. The agenda will be communicated in due time.

Minutes edited by G. Sterbini.