

Minutes of the 12th FOM meeting held on 24.06.2014

Agenda:

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

1 Follow-up of the last meeting

The minutes of the 11th FOM meeting were approved.

Pending actions:

There is a pending action for F. Pirotte concerning the follow-up of a Special Permit to access AD ring when magnets are on. B. Mikulec informed that the Special Permit was signed. The action is closed.

2 Schedule Updates

K. Hanke presented the Injector Schedule (v1.4). It can be found at

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

There is no news concerning the schedule.

3 Status of the Machines

Linac2 (G. Bellodi)

Concerning the problem of the proton source flashovers, there was a dramatic reduction in the flashover rate since the air temperature in the cage was reduced. See

http://elogbook.cern.ch/eLogbook/attach_viewer.jsp?attach_id=1361818

On Tuesday (17 June) further investigations on valve closures in coincidence with source flashovers took place. The ground cables were inspected, and several redundant cables removed. Since then there have been no valve closures, but due to the reduced number of flashovers, the statistics is not conclusive.

Investigations on outgassing of the slits in the LBE measurement line are on-going. The pressure rise is higher than expected even at a low beam rate. The cooling water is working as expected. This is to be followed up by EN-STI. K. Hanke asked A. Masi if he could inform the EN/STI responsible for the device and to follow-up the issue. A. Masi answered positively. An action was opened.

On Thursday, the RF tube of tank 2 was showing a very low power level and was difficult to reset it overnight. This caused a notable shift in beam energy which required re-steering. The

issue was fixed after the tube replacement.

A beam loss campaign took place in collaboration with RP by switching off the quadrupoles in the LTB line.

On Monday night (23 June) the power supply of the LEBT solenoid (LI.SN02) was replaced.

The measuring line shared between Linac2 and Linac3 is being currently used by Linac3 for setting up ions.

[PSB \(E. Benedetto\)](#)

The week started with the intervention to repair the BT.BHZ10, which took place on Tuesday (17 June) morning. The beam was back in the afternoon.

On Friday afternoon, the MPS tripped several times because of a temperature problem on QDE41. A. Newborough and P. Tonet entered the machine in Special Permit mode with the MPS pulsing. They found that one of the water circuits was blocked. It was decided to consign the MPS and purge the water circuit.

In the night the MPS was in fault once more because of the QDE41 temperature. To avoid further trips, the operator cleaned up the Supercycle. One more MPS trip occurred on Sunday afternoon. Cleaning the Supercycle helped again.

On Monday morning, A. Newborough accessed again the PSB ring and found some cotton inside the beam pipe blocking the water flow. With the thermal camera he spotted another magnet with the same issue. An additional intervention is presently on-going to purge also this second water pipe.

On Thursday evening the PS received its first beam. The setting up of the large emittance beam, needed for the tune scans in the PS before the realignment, is on-going.

During the weekend, the beam intensity has been increased up to 8 turns, injected with 70% efficiency thanks to the improved steering. The capture process still needs further tuning. Up to $470E10$ protons per ring were accelerated.

Concerning the extraction, it is difficult to optimize the steering using only the Oasis signals available for the extraction pick-ups.

The RF team has problems to control the C16 cavities used for the blow-up. It was decided to put them at zero voltage although they are enabled in the working set.

J. Betz asked if the LLRF system used for the beam commissioning is the new digital one. M. E. Angoletta answered that the phase-jump problem has been solved therefore the new digital LLRF will be used.

[PS \(G. Métral\)](#)

On Tuesday at 19h the first beam after the LS1 was injected in the PS. The beam made several turns in the machine with significant beam losses and radiation alarm.

On Wednesday there was an access for the replacement of one of the first quadrupoles towards the East Area. In the meantime there were several checks of polarity on several circuits.

On Thursday the commissioning of the flat bottom took place.

On Friday an h=8 beam was accelerated up to 26 GeV.

During the week the 26 GeV cycle continue its commissioning.

Concerning the instrumentation, BSM and tomoscope are working. There are still some problem with the trajectory measurement system (no orbit measurement is available after C380) and there are problems in setting the gain of the 3 additional PU installed during LS1. The wire scanners are being commissioned.

During the first week of July a beam-based machine realignment of the MU will take place.

TOF need several accesses to complete their installation. After discussion with the DSO and the access team, M. Tavlet e F. Pirotte prepared a memo where the special access mode is described. Yesterday morning (23 June) a TOF access tripped the PSB and the PS. The problem repeated during the evening.

Concerning the activities in TT10, D. Mcfarlane will send a reminder on the access modalities and on the 28th of June SPS closure.

D. Mcfarlane asked why having the door between TT70 and TT6 open (due to some planned civil engineering works) does not also trip the PS machine. It was explained that the door in question is part of the ISOLDE interlock chain and not the PS.

K. Hanke asked if other accesses are planned in addition to the one needed for the realignment. S. Gilardoni reported that there is an access needed for installing the camera on the dummy septum. A. Guerrero informed that the camera installation is going to be completed today (24 June).

SPS (K. Cornelis and D. Mcfarlane)

By end of the week SPS will be closed. All activities are on schedule except the one related to BA1. In BA1 there are several vacuum leaks.

The main work will be completed by this week but specific accesses will be required. M. Hourican informed that TE/ABT would need daily access to the SPS. K. Cornelis replied that the SPS OP team is informed.

ISOLDE (M.-L. Lozano Benito)

The problems on the HRS90 and HRS60 separator magnets were solved. Now both magnets are running and cycling. Beam (^{39}K) was sent through both separator magnets.

There were BI interventions during the week to replace the scanners HRS482 and HRS483.

On GPS, ^7Li beam was sent up to RC0 with very good transmission.

During the week the laser team managed to setup the Ba beam and even Ba^{2+} for the first time.

There are still some controls problems (scanners and grids) and the new deflectors for GHM and GLM that are not working properly yet.

B. Mikulec asked if the water leak repair on the target zone was successful. M.-L. Lozano Benito answered that the pipe was re-welded and that an x-ray scan was done, but he is not informed about the final outcome.

[nToF \(\)](#)

No news.

[East and North Area \(A. Fabich on behalf of L. Gatignon\)](#)

A. Fabich informed that the replacement of the old North marguerite by a new type is now being organized for next week.

A. Fabich reported that from the information he got the DSO test for the East Area will be performed on the 7 July and not on the 30 June as reported on the Injector Schedule. K. Hanke asked if he could confirm the date after the FOM. A. Fabich answered positively.

[AD \(T. Eriksson\)](#)

T. Eriksson sent an email before the FOM.

“The target area special access zone should now be ready (access with magnets pulsing). [...] Magnet inspection has still not started.

The horn stripline tests progress well. Final tests of chariot will take place this week whilst the installation in the target area will start next week.

Dry runs and other CO issues progress as planned.”

[Linac3 \(\)](#)

No news.

[LEIR \(M. Bodendorfer\)](#)

The ABT, CO, EPC and BI teams completed their dry runs in the LEIR machine.

Some issues with controls and BI have still to be solved:

- 1) LEIR Vistar configuration needs to be updated with the new sampler names.
- 2) The tune viewer application is not working properly. P. Freyermuth will implement the PS/PSB tune application to replace it.

An issue with a front-end computer delayed the RF team. The issue is now solved but RF-hardware tests could not yet take place in LEIR.

At the moment there are no show-stoppers for the LEIR restart on schedule.

This week (week 26) the cold check-out with the generation of two new Ar cycles started. LSA issues were quickly solved by G. Kruk.

The LEIR visitor observation platform will be closed from the 30 June after the last guided visitors tour is finished. From then onwards the observation platform will be locked and bolted until the radiation protection group, RP, releases a statement that the radiation level is low enough for visitors, with Ar beam in LEIR.

The beam permit will be asked on Monday (30 June) after closing the LEIR platform.

K. Hanke asked if there are more information on the Linac3. M. Bodendorfer answered that D. K uchler is solving some calibration issues on the Linac3 BCTs.

TI (J. Nielsen)

It was an intense week for TI but there were no relevant problems to report.

4 AOB

K. Hanke informed that the Magnet Piquet is now available 7d/7d, 24h/24h. As usual, the piquet operates through a centralized telephone number: 161949.

A. Masi presented the plan for the pulling the cables of the beam stoppers. The slides can be found at

https://espace.cern.ch/be-dep/FOM/Minutes_2014/Forms/AllItems.aspx

The list of all the external conditions requested for the beam stoppers was shown. There are 15 beam stoppers to connect.

A possible schedule for the installation of the cables foresees to install in week 26 the PS, PSB and Linac2, in week 27 the TT2 related ones and week 28 the ones serving the East Area. The cable will be pulled. The will be positioned in the under floor trench during the machine stop (4 h intervention is needed per each of the three groups).

After the cables, BE/CO will configure the external condition, there will be the PLC modification (during this modification the beam stopper will be IN BEAM position), and the commissioning of the new system.

G. Métral pointed out that the intervention could potentially affect the safety of the machine. An action for M. Tavlet was opened to clarify this point.

B. Mikulec pointed out that having a 4 h intervention is difficult to schedule. A. Masi will provide a phone number to optimize the notice time.

J. Betz asked why the cabling was not finalized during the LS1. K. Hanke and B. Mikulec answered that it was an oversight.

Minutes edited by G. Sterbini.