Minutes of the 35th FOM meeting held on 27.09.2011

Agenda:

1) Follow-up of the last meeting (K. Hanke)
2) Status of the machines
3) Schedule (K. Hanke)
4) AOB
5) Next agenda

1 Follow-up of the last meeting

The minutes of the 35th FOM meeting were approved.

Follow-up from the last FOM:

Pending actions:

Status of the PS-Bfield fluctuation with POPS

The action is on hold since POPS is not operating. Action not closed.

2 Status of the machines

LINAC2 (D. Küchler for R. Scrivens):

On Wednesday there was a fault on a quadrupole power supply in the tanks, fixed by the EPC piquet.

In the night from Friday to Saturday there was the power cut, in the end everything came back without major problems.

There was a problem in the LBE line as a power supply in a chassis had been removed, it was put back but now there is no position measurement in the horizontal plane. The horizontal axis is working again but there is still a problem with the sample&hold. The responsibility for the line is shared between BI, Magnets, Magnet measurements and kicker groups, but without an overall responsible. The line will be rebuilt for 160 MeV operation. This device is heavily used during start-up. This issue will be followed up by the Linac supervisors.

PSB (A. Findlay):

It was a mixed week.

On Thursday a PSB lift interlock tripped the safety chain at 17h35, as the lift was at level -3, which is forbidden during machine running. The door was still locked as well as all other doors. The OP team patrolled the area and reset the chain. A. Findlay said there is no explanation for this event. All beams were down for 40 min.

On Wednesday, problems started with the C04 cavities. At first the air flow error could be reset, but an access was finally needed on Friday evening to replace the air flow detector as the trips were happening every 15 to 20 min. Beams were back around 22h, just 40 min before the Meyrin power cut that occurred at 22h40. Beam was back in PSB at 3h30.

On Saturday, the distributor of ring 4 tripped at 9h15 and required specialist intervention. The specialist replaced a thyratron and beam was back for ring 4 at around 12:00. Another thyratron needed to be changed by 2 specialists during the afternoon.

K. Hanke added that the PSB is off during the meeting for one hour to reconfigure the electrical network.

ISOLDE (E. Siesling):

GPS:
A new target was tuned and the proton scan was done on Wednesday. Stable beam was delivered at 50 kV. There is now a problem with holding these 50 kV, and this needs to be investigated.

HRS:
Using the UC target for COLLAPS and CRIS; 30 kV and 50 kV.

The central beam line was shared between HRS and GPS.

REX from GPS:

There are problems with getting the EBIS running. D. Voulot pointed out that the EBIS is a weak point. It is a one-specialist system and critical for REX operation. If the intervention on the EBIS goes well there is hope to get radioactive beam by Thursday evening. The power cut brought down the complete ISOLDE complex and E. Siesling sends thanks to the PSB OP team for the quick recovery.

ISOLDE users (M. Kowalska):

Solid State Physicists on GPS were very happy as good yield was obtained. Laser ionization experiments were also very happy. M. Kowalska said that there is no change in the schedule planned for the moment. In that case the Nickel run would be half as long as it was planned.

PS (G. Métral):

Trips on the MPS were due to an EASTB cycle that was used with POPS, which was too long. This was fixed.

Frequent trips of the 10 MHz cavities (C96) and C80-08 required specialist intervention. The 20 MHz cavities needed resets.

On Thursday, an MD with slow extraction for EAST was done.

The PS was hard to restart after the power cut on Friday. Beam was back 8 h after the cut.

There were problems to restart the 10 MHz cavities, problems with the train seen by the timing system, and TFID cabling problems. The TFID was recabled. These cabling issues could explain the losses observed at extraction over the past weeks as it is the same timing chain.

The emittance of the LHC50 beam was measured as asked by LHC, but 1mm.mrad is asked when in general 1.5mm.mrad is obtained at the exit of the PS. K. Cornelis confirmed that 1.1 mm.mrad was obtained for 1.1e11 p/b a few years ago but now the bunch current is higher. The emittance increases linearly with intensity.

H. Breuker said that he got a call as the power use was close to power limit on the Meyrin site. He was asked to see if one should switch off AD or ISOLDE. Fortunately, in the end another solution was found. P. Sollander and F. Tarita said that the power network was not configured in the standard way and that there was a lower power limit on the supply for this temporary configuration. This is why power needed to be saved.

J. Vollaire said that there was quite a lot of irradiation on PAXS51. G. Métral said that we are at the limit of what is allowed and wondered if a maximum number should be set. This should be decided by RP. Also, TOF is at very low current, which means a comparator increases the intensity dumped on the internal PS dump to keep this low intensity, i.e.150e10 in dump 47 if one is not careful with the injected current. H. Breuker said that this low intensity is needed due to a very special uranium sample for TOF.

Presentation by C. Rossi on PS RF cavities (**slides**).

The replacement of the amplifier of C81 is advisable (1.5 hours of beam stop to be scheduled).

C86 is working perfectly while C96 is failing often. It appears as if the fast feedback is losing gain or the cavity is detuned on h=21. A dedicated MD would be useful to understand the cause of the faults together with LLRF. The MD coordinator will be asked to allocate these 1.5h of MDs.

For C51, there is an anomalous anode current on a RF tube of the Driver amplifier but reasons are still unknown. Tests will be performed on an amplifier showing a similar behavior at the PSC10 test cavity in building 359.

The idea is to replace parts before they break, and this also means one needs to consolidate the stock of amplifiers. Higher dose received by equipments as well as less maintenance due to shorter winter shutdowns make the situation more critical.

There is an access during the meeting for the 20 MHz cavities.

East Area (E. Gschwendtner):

IRRAD and DIRAC are running fine.

On COMPASS there is a calorimeter upgrade, and they are starting to take beam.

East Area Users (H. Breuker):

The East Area users suffered from power cut, and came back yesterday.

TOF (H. Breuker):

TOF is taking small intensity now as they are using a special Uranium sample. The counting rates were too high and they need special conditions (1e8p instead of 8e8p).

AD (T. Eriksson):

Beam losses were traced to stochastic cooling, but losses disappeared by themselves.

On Wednesday, a similar situation occurred. There was no clear conclusion and the problems disappeared again by themselves.

After the power cut, the OP team spent all night restarting the machine.

The problem with RF trains in the PS affected the AD operation and a problem with timing settings was corrected on Saturday at 6 p.m.

There is a request from the power group for a 3h stop, as they are running with a temporary power supply. The FOM will have to find a suitable for this stop.

AD Users (H. Breuker):

ALPHA: excellent running.

ASACUSA: CASTtrap.

ATRAP: no news.

AEGIS: working on installation.

SPS (D. Manglunki):

MDs used shorter cycles than anticipated (1/3rd of the anticipated cycle length).

On Thursday, physics was resumed earlier for North Area and CNGS as hardware for BBLR MD was not ready.

On Friday, a power cut affected the Meyrin site, but did not affect the SPS. Beam was back on Saturday afternoon. The weekend went without issues.

CNGS is now 6% above the expected protons on target. CNGS is now taking less beam as there is also the ion cycle in the supercycle.

North Area (L. Gatignon):

North Area users (H. Breuker):

All are fine.

CNGS (E. Gschwendtner):

There were a lot of modifications to the horn. Low current was used last week and it is still running fine without trips. The plan is to continue running like that to be safe until the spare thyristor is ready.

H. Breuker said a few words about the newest results of the OPERA experiment. He said that synchronization was done by atomic cesium clocks and distances are measured by GPS.

CTF3 ():

No report.

TI (P. Sollander):

The network is recovering now, and reconfiguration is ongoing. The Meyrin site 18 kV stop on Friday night was due to a bad joint on a cable.

Some additional perturbations were caused by reconfiguring the network.

LHC interface with injectors (M. Lamont):

It is going well when it goes well. Fluctuations of the injected beam size are observed. Run with 90 m unsqueeze for TOTEM and ALPHA is looking good.

During next week, 25ns beam will be taken for an MD. K. Cornelis said that the beam should be ready by the end of the week

IONS

LINAC3 (D. Küchler):

Stable intensity was obtained (20 to 23 µA). Linac3 was stopped by the power cut. As there is no 24h coverage for Linac3, the beam was only back on Saturday morning.

The next oven refill is planned for next Monday.

LEIR (M. E. Angoletta)

It started well, with a very fast refill of the source. On Thursday there was a problem with the LLRF, which was traced to overheating of a crate and was fixed.

On Friday, the injection efficiency dropped. After resteering it came back to normal.

The power cut affected strongly LEIR. Septa experts were called, as well as power piquet and control piquet. The electron cooling could not be restarted and the expert was not available. On Saturday the expert came in and nominal beam could be restored and the situation was recovered. Now we have the NOMINAL beam with a bit less than nominal current.

PS (D. Manglunki)

In the PS injection oscillations needed to be adjusted.

SPS (D. Manglunki)

Thomas is working on the longitudinal blow up. The performance of EARLY is 1.2e8 p/b with emittances of 0.8 mm.mrad norm, which is comparable to last year. There are still a couple of weeks of setup.

Now the plan is to try to inject the 2 bunch-beam as the SPS should be ready for that.

3 Schedule / Supercycle / MD planning

The 2011 schedule (V3.3) is available at:
https://espace.cern.ch/be-dep/BEDepartmentalDocuments/BE/injector_schedule.pdf

All planned interventions for the injector complex are available via the on-line agenda:

https://espace.cern.ch/be-dep/FOM/Lists/Agenda/calendar.aspx

On Thursday, beams will be stopped at 8:30, and the intervention on the PS cavities is planned from 9am to 11am (depending on LHC and RP approval).

The floating MD (12h for ions and 12h for BBLR) on Wednesday is transparent for ISOLDE and AD but not for EAST.

After the meeting it was decided to postpone the BBLR MD. Physics will then be resumed earlier (at 8pm on Wednesday 28/09 instead of 8am on Thursday 29/09).

4 AOB

J. Vollaire requested half a day for SPS survey 30h after the end of proton run (which is 8am Monday 21/11). This is a standard procedure.

5 Next meeting

The next meeting will be held on Tuesday, 4th October at 10:00 in 874-1-011.

Preliminary Agenda:

1) Follow-up of the last meeting
2) Status of the machines
3) Ion-proton tests planning and requirements (R. Alemany)
4) Schedule
5) AOB
6) Next agenda

Minutes edited by B. Salvant