Minutes of the 33rd FOM meeting held on 31.08.2010

Agenda:

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

1. Follow-up of the last meeting

The minutes of the 32nd FOM meeting were approved.

Follow-up from the last FOM:

a) Status of the PS B-field fluctuations.
S. Gilardoni reported that the investigations of the effect of the screws installed to stabilize the lamination near the magnet junction are ongoing.

b) Status of PS stray field correction in PSB/Linac. B. Mikulec reported that the problem is being followed up by J. M. Nonglaton. This problem occurs only rarely, making the diagnosis more difficult. It is preferred to identify the source of the problem to implement a proper correction instead of simply applying no correction if the B field value used for the stray field compensation is wrong.

c) Status of the displacement of the coffee machine in the NA placed in a supervised area and d) Installation of barriers in the NA for avoid people not going on top of the AMS ex test beam line. At the RSOC it was decided that these problems should be solved by the DSO. EN is trying to find a solution to a similar problem in the EAST area. However the budget to realise the different interventions has not been identified yet.

e) Limiting the number of people in the T7 control room. S. Hutchins reported that, after a discussion with M. Glaser, it became apparent that there is no clear limitation of the number of occupants in the control room. The safety commission will follow the problem.

f) Bring to the IEFC the problem of the missing layout of the transfer lines. K. Hanke reported that this issue will be included in the FOM regular report to the IEFC. B. Mikulec added that there will be a presentation at the next IEFC concerning the layout database for the injectors. L. Bruno added that the drawings issue should be discussed in the framework of the development of the functional databases for the injectors.

b) Status of AD bunch-length.
P. Belochitskii reported that the source of the longitudinal blow-up could not be found yet. A. Findlay added that more investigations were done for the LLRF, but basically all the settings are coherent with the reference values.

H. Breuker added that the too long bunch length constitutes an issue only for one ASACUSA subgroup. For the next two weeks, there will be another ASACUSA user, which requires an extraction with a different longitudinal structure.
S. Gilardoni asked if dedicated MD time should be allocated for the investigation of the problem. P. Belochitskii replied in the negative. H. Breuker observed that currently the measurement of the electron trajectory inside the e-cooler is not available, reducing the possibility to fully understand the problem. P. Belochitskii replied that a possiblel offset of the electron beam in the e-cooler would increase the cooling time but it would not cause the observed effect on the bunch length.
T. Eriksson added that the bunch length is correct in the case of the multi-bunch extraction.

The beam statistics can be found here.

2. Status of the machines

Linac2 (G. BELLODI):
The Linac was running without any particular problems.
A few RF trips could be reset remotely from the CCC.
On Wednesday morning, the RF experts noticed that the debuncher was reaching 0 V on long pulses, which indicates that no RF power was sent into the cavity, as more than enough amplitude was present just due to the beam loading.
The debuncher phase setting was from 300 to 285.6 deg with a net increase of the beam intensity extracted from the PSB.

The activities of the technical stop were progressing without any problem. The installation of the pepper pot was going according to the schedule. The Linac could be available before 20:00 since, as noticed by J. Hansen, the vacuum levels were already good during the FOM in all the lines except the measurement one, which is not necessary for normal operation.

PSB (B. MIKULEC):
The problem with the transformers mentioned last week was solved by CO. A different proxy server plus an upgrade were implemented.

On Wednesday at about 15:00 the beams were lost from time to time at extraction. The ejection kicker was rising one RF period too late for all the users. As temporary solution the timing BEX.MW8RF was changed. About two hours later, the problem suddenly disappeared without having been understood. The LLRF specialists will follow this up with CO.

On Thursday the watchdog triggered for NORMGPS user due to real losses. These losses seemed to be correlated with the C02 dropping out for ring 4. This problem will hopefully be corrected during the technical stop since the cavity seems to draw more current than usual.

The power supply of the BI3.QNO60 was exchanged on Thursday.
The regulation card of the BTY.QFO184 was exchanged on Friday.

K. Hanke asked if the activities of the technical stop were progressing well. B. Mikulec replied in the positive; in particular the BWS was successfully changed.

ISOLDE (E. SIESLING):
ISOLDE had a very good week.

HRS: HRS was in standby. A single pulse per supercycle was taken in ppm with the GPS ones to create long lived Ra for an experiment at REX that started on Monday.
Unfortunately, REX was eratically vented just before the FOM. The vacuum was in the process of recovering.

GPS: GPS was producing Mn using RILIS laser ionization. The beam-time was shared for LA1, GLM and GHM lines. The GPS deflector was running very well after the repairing of few weeks ago.
The experiments were running without problems.

The GPS extraction voltage was limited to 30 kV. 50 kV or higher could not be reached due to sparking in the front-end. This was probably caused by pollution on the tip of the extraction electrode from the last liquid target run.
The current users could run with 30 kV but an intervention will be planned for later this week (after the run and the necessary radioactive cool-down) to be able to go up in energy for the next coming experiments.
K. Hanke commented that a better planning should be done concerning the use of the liquid targets. It is known that the extraction electrodes get polluted after a liquid target run. E. Siesling replied that already two targets were exchanged after the liquid target ones.

The GPS faraday-cup FC490 movement is mechanically unstable. To avoid any problem, in particular to avoid that the cup blocks, it has been put out-of-order. An intervention to replace it by its spare will take place later this week.

Several leaks of nitrogen for venting the different sectors have finally been located on the REX venting line and repaired. This is expected to reduce the consumption of nitrogen for venting.

A worn pulley on the hall ventilation system was found during inspection by SEGELEC. It will be replaced this week.

K. Hanke mentioned that he is following up the problem mentioned last week about a water leak from the roof of the experimental area. It seems, however, that the leak disappeared. E. Siesling said that most probably the gutters and the drains were cleaned.

L. Bruno asked in which part of the machine is located the faulty Faraday cup. E. Siesling replied in the GPS separator.

ISOLDE users (M. KOWALSKA):
The users were happy.

There was a problem with the beam focusing on the target.

During the venting of one of the experimental lines, one of the valves remained open. Apparently, in the new control system there is no time-out implemented for the valve controls. This will be followed up with the experts.

The users complained about the frequent changes of the supercycles. K. Hanke replied that the changes are due to the requests from the LHC. E. Piselli will implement a logging of the supercycle composition.

K. Hanke asked about the problem of the wrong focussing on the target. In principle, the interlock implemented by E. Piselli should prevent a case like this to happen. E. Piselli replied that the interlock cannot determine a wrong beam position: in this case the focusing was correct but only if used on the converter and not on the target. The interlocks will be revised.

PS (G. METRAL):
The PS had a pretty calm week, with only minor issues.

Two hours were lost on Wednesday due to the aforementioned problem of the PSB kicker synchronisation.

On Thursday, a quadrupole in TT2 was not pulsing correctly. The power piquet had to intervene.

The INCA deployment is progressing with difficulties. The ppm is still not operational, making very hard the implementation of new operations.
The beam archiving is laborious to do and not yet reliable.

The LHC75 and the LHC150 cannot be provided at the same time since only one MTG user is available. The commutation from one user to the other is not easy.
K. Hanke added that clearly the change from one operation to the other should be done by a simple user change in the supercycle. For this reason, in the PSB the LHC150 will be put on the LHCPILOT MTG user, since this beam has been confirmed not to be required by the LHC.

The MDION (nominal ion beam) was used to set up the RF. The beam could be extracted to D3. Some more work is needed for the transverse setting up, since not enough time was available.

K. Hanke asked if there is enough support for INCA. G. Metral replied that there is enough support but that progress is very slow.

EAST AREA (L. GATIGNON):
The run was smooth for the entire week.

There are no users for the North branch, so no EASTA beams.
In T7, IRRAD and DIRAC will profit of an extra spill for the next two weeks.

EAST AREA USERS (H. BREUKER):
The run was smooth. In T7 a new calorimeter has been installed behind the shielding wall to measure muons.

TOF (H. BREUKER):
The Am has been removed from the target. The experiment was preparing for the next part of the physics program.

L. Soby reported that it was not possible to exchange the TOF transformer due a problem with the vacuum flanges. The intervention has been postponed to the next technical stop.

AD (P. BELOCHITSKII):
The AD had a good week.

On Wednesday, an injection line magnet was in fault and had to be reset locally.

On Thursday and Sunday there were few trips of the quadrupole MPS. Firstline solved the problem.

On Friday, the target cooling interlock triggered due to the too high temperature. An interlock reset solved the problem. S. Gilardoni asked if this was the same problem mentioned as solved during the last FOM. T. Eriksson replied that the temperature regulation is abnormal. S. Deleval added that some checks are ongoing. There are also some interactions with STI to better clarify the responsibilities on the equipment.

L. Soby asked since when the measurements of the electron trajectories in the electron cooler is no longer available. T. Eriksson replied that this is the case since the renovation of the cooler.
K. Hanke will follow up the problem with the responsible of the system (G.Tranquille).

AD USERS (H. BREUKER):
ASACUSA was installing new HW for the new group.
The other experiments were running fine.

SPS (K. CORNELIS):
The SPS had a busy week.

The LHC150 was sent to the LHC for injection tests.

The MTE beam has been taken from time to time. A new optics has been implemented with a new matching. The horizontal emittance was large but this is probably due touncorrected trajectories of the beamlets.

The 55 GeV and 120 GeV coast were used. In particular, the BBLR tests with the 55 GeV coast were very successful.

Ions were taken at the end of last week. The intensity was pretty good. The beam was circulating but without acceleration. The PS was synchronised with the SPS. The

Early Beam and the Nominal Beam were captured with RF and kept at the flat bottom. Both beams were used to match the energy for the PS/SPS transfer.

There was a problem with the extraction septum in LSS4. An emergency stop button had to be changed on the power converter.

On Wednesday, the Hall probe of one of the NA magnet stopped working. This triggered the safety chain.

On Saturday, the beam scraper had a mechanical failure. A temporary fix was implemented while definitive repair will be done during the next shutdown.

Three magnets were exchanged since they are equipped with new vacuum chamber coatings for the e-cloud studies. The magnets were not magnetically measured, so some shims will be installed after the first orbit measurement.

CNGS (K. CORNELIS):
The intensity delivered is still above the scheduled one.

NORTH AREA (L. GATIGNON):
After the AMS departure, the week was pretty calm.

The CESAR run was progressing well.

There will be a change of the interlock conditions since two new doors will be added to the system.

NORTH AREA USERS (H. BREUKER):
The AMS experiment left CERN for the NASA Kennedy Space Center.

CTF3:
No report.

LINAC3 (G. BELLODI):
The tuning of the Linac and the source continued. Thanks to the increase of the RFQ voltage by 7% the intensity could reach the 27 muA.

Tank1 had a fault which could be repaired by the power expert.

LEIR (M. CHANEL):
Linac3 was very stable. The EARLY and the NOMINAL beams could be produced with very good emittances with the nominal cycles. LEIR was also very stable.

A chassis with timing modules broke but the machine could continue to run.

There were some problems with the controls, since some timings could not be changed.

PS-IONS (G. METRAL):
See PS report.

The intensity was very good. Some more work is needed for the transverse plane.
The intensities, transverse and longitudinal characteristics as measured in TT2 and the PS comply to the requirements for both early and nominal beam.

SPS-IONS:
No report.

TI (P. SOLLANDER):
There were no particular problems.

S. Hancock reported that the water for the PS central building air conditioning was interrupted outside the scheduled period. P. Sollander will check when the water was cut and the why.

LHC interface with injectors (M. LAMONT):
Collisions were done with 50x50 bunches. The luminosity reached the $10^{31}/cm^2s$.

After the technical stop, the operation will be resumed with injection of bunch trains. The commissioning of this will take about two weeks. The 150 ns beam will be required with different configurations.

Concerning the transverse emittances, it would be better if the PSB could provide 2.8 mum to avoid the transverse blow up in the SPS. K. Cornelis said that this would help a lot, since the blow up in the SPS is not PPM and the control of the damper is not via standard application.

S. Hancock asked if the LHC will require the LHC75 this year. M. Lamont replied that if the LHC150 will be delivered by the injectors with good quality and 1.1 10^{11} p/bunch, the LHC75 will not be asked.

K. Cornelis stressed that going for the LHC150 to the LHC75 operation will require some setting up time.

3. Schedule / Supercycle / MD planning

The 2010 injectorschedule (V1.8) is available at:
https://espace.cern.ch/be-dep/BEDepartmentalDocuments/BE/2010-injector-schedule_v1.8.pdf

The restart of the PSB and PS after the technical stop should take place at the latest 20:00 (31/8).
The SPS will restart on Wednesday (01/09) at 8:00.
The UA9 will end on Friday (03/09) at 8:00.
The physics will restart on Saturday (04/09) at 8:00.

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.

4. AOB

5. Next meeting

The next meeting will be held on Tuesday, 7 September at 10:00 in 874-1-011.

Preliminary Agenda:

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Minutes edited by S. Gilardoni