Minutes of the 30th FOM meeting held on 03.08.2010

Agenda:

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

1. Follow-up of the last meeting

The minutes of the 29th FOM meeting were approved.

Follow-up from the last FOM:

a) Status of the PS B-field fluctuations.
R. Steerenberg reported that there are no particular news.

b) Status of AD bunch length. T. Eriksson reported that the bunch length is still longer than nominal. Some further attempts to reduce it were done, but they were not successful.

The beam statistics can be found here.
The AD statistics are now available as well thanks to the modifications done by J-C. Bau and I. Kozsar.

2. Status of the machines

Linac2 (R. SCRIVENS):
The Linac was running without any particular problem.

PSB (B. MIKULEC):
The PSB had only two problems causing some longer operations stop.

On Wednesday at 9:00 PM, the ARCON system stopped working. The operators, according to the safety rules, put the beam stopper of the Linac and called the RP expert. The expert found a faulty relay card of the sub-system covering the EAST area and PS injection monitors. As a temporary fix, the alarms of these zones have been re-routed to the control room on the CTF3 channel. A final repairing will be done during the next technical stop. In total, the CPS complex lost 6 hours.

On Thursday at about 6:00 AM, the BI and BT vacuum valves showed a 'non-valid' status, and the pressure in the region increased to ~1E-6. The vacuum specialist and piquet were informed since there is no vacuum controls piquet for the complex. The colleagues found a faulty power converter on the NIM rack of the vacuum equipment. In the case when communication to the controls rack gets lost, the ion pumps are switched off for protection, but this causes the overall vacuum degradation.

Two hours later beams were back and the vacuum recovered.
J. Hansen wanted to stress that the vacuum equipments did not have any fault, being the problem generated by the power converter of a standard electronic rack.

ISOLDE (E. PISELLI):
HRS: nothing to report.

GPS: a target exchange was scheduled on Tuesday. Unfortunately the robot carrying the used target blocked in front of the storage shelf. The door of the storage did not open due to a problem of communication between the micro-switches and the opening relay in the local ISOLDE control room. R. Catherall and J. L. Grenard (EN-HE) investigated the problems, and finally on Wednesday afternoon the target could be changed. The problem seemed to be stemming from the hardware communications between the door micro-switches, the pneumatic pistons and the door opening relays in the control room, but it is still unclear why this happened.
Stable beam was then delivered from Thursday.
A general review of the target exchange system will be done during the next shutdown.

ISOLDE users (A. HERLERT):
The users did not suffer too much from the target exchange problem. They managed to have a good run even with the delay at the start.

PS (R. STEERENBERG):
The PS had a pretty good week.

The PS had to stop due to the aforementioned ARCON problem (see PSB report).

DIRAC had to interrupt the run due to a cooling problem in the experimental area.
TOF changed the experimental setup and currently the experiment can profit from an intensity increase, up to 900E10. Thanks to the good run and the high intensity, the overall protons delivered exceed the promised flux by 11%.

A quadrupole in TT2 was tripping quite often, and was put under surveillance.

On Wednesday, the EAST area stopped to allow some installation in the T7 zone.

The LHCION cycle was installed to continue the setting up of the ions. During the first tests, the MPS was tripping. The magnetic cycle has been corrected to avoid the trips.
The 80 MHz cavity used as hot spare for protons has been tuned for ions. Unfortunately, one of the proton 80 MHz cavity tripped and the specialist had to intervene.
As reminder, if one of the three 80 MHz cavity is tuned for ions, there is no hot spare cavity available for the proton operation.

On Wednesday, the specialist of the supercycle editor had to intervene because the program was not working.

On Saturday, a water leak was found on a magnet in the EAST area that is currently not used. The operator closed the valves and the superintendent was informed to fix the problem.

On Sunday evening, one of the 10 MHz cavity final amplifiers broke.

The LHC150 was sent to the SPS for the setting up.

The LHC single bunch high intensity beam was taken. An intensity up to 3E11 could be reached with beam characteristics not too far from nominal.

The BWS were not available between Friday and Monday.

The MTE setting up is progressing.

The use of INCA revealed some issues, which are constantly followed-up by CO.

EAST AREA USERS (H. BREUKER):
IRRAD (T7) will start to take beam on Thursday.
DIRAC had a problem with the ventilation in the experimental area. Two days of run were lost and only a temporary fix could be found.
T9: the NA62 test beam is progressing.
T10: the ALICE test beam is ongoing.

TOF (H. BREUKER):
The experiment is now doing the neutron capture on Am.

AD (B. DUPUY):
The AD week was dedicated to the investigations concerning the too long bunch length at extraction.

On Monday, a MD was dedicated to the studies of the Stochastic Cooling. Few settings were tried, but there was no significant improvement of the bunch length.
Further studies were carried out on Tuesday. The optics of the machine was changed as were other settings. The beam tuning was done by optimising the ASACUSA experimental signals after the RFQD. The experiment could profit from the new settings, even if the bunch length is still not optimal.

On Tuesday, the water station of the target cooling had a new fault. The expert intervened to reset and restart the station. The control of the station, as most of the related equipments, is now clearly showing signs of aging. A renovation is under discussion.

On Thursday, the transverse scraper moved accidentally through the beam. This happened during the tests of the new application of the emittance measurements. Somehow the PLC controlling the scraper movement froze and the scraper moved. The specialist could reset the system.

On Friday there was a water-cooling pressure drop for a magnet in the DE0 line. The magnet specialist intervened to fix the problem.

On Saturday, the beam had to be re-tuned for the ALPHA experiment as it was optimised for ASACUSA as mentioned above.

AD USERS (H. BREUKER):
Nothing special to report.

SPS (D. MANGLUNKI):
The SPS had a good week.

The intensity delivered to the CNGS has reached 2.1 10^{19} pot, whereas the intensity expected was 1.9 10^{19} pot.

The SPS filled regularly the LHC with the multibunch user LHC2. The emittances were adjusted according to the LHC requests.

In the NA, the beam sharing was changed following the AMS requests. This reduced the COMPASS integrated intensity.
The H8 line was set up to receive the 400 GeV/c primary beam, with a maximum proton flux of 2 kHz. This beam was taken since Monday morning.

Concerning the MDs, tests were done with the LHC150, the multibunch acceleration with a faster ramp and the LHC high intensity single bunch beam.

The MKD tripped during the week and required the intervention of the BT piquet. On Monday, the MKP had a problem with the insulating oil, which required an access in the tunnel.

North Area (E. GSCHWENDTNER):
The problem with COMPASS had been solved. The access system in the NA appeared again. An electronic card was changed.

The AMS experiment required the use of the primary proton beam for a limited period of time. To allow this, several HW safety conditions have been implemented to avoid sending too large intensity to the NA. In particular, the TAX should be “IN” and the micro-collimators should be at the right amplitude. There is also an intensity measurement to cut the beam directly in the SPS. E. Gschwendtner wanted to stress that all the precautions have been taken to avoid sending the primary beam with too large intensity to the NA.

North Area Users (H. BREUKER):
The NA61 access system has been improved.

H4: the RD51 setting up is progressing.

H6: CERF finished the data taking. Now ATLAS started a test beam.

The AMS installation finished by Sunday. The experiment required the primary beam. The test beam will last until the 20/08. The MD on the official schedule has been delayed after the AMS request.

CTF3 (D. MANGLUNKI for P. SKOWRONSKI, mail):
"Tuesday:
- Measurements of Twiss parameters along the machine and Linac optics rematching.
Wednesday
- Established recombination with CR (factor 4). Stable 12A reached out of 3.6 at CR injection.
- Bunch length measurements along the machine
Thursday
- Work on optics in TL2. Only 60% of the current delivered for experiments in CLEX.
- Anyway sufficient for power production tests (new equipments installed) and two-beam synchronization.
- Attempts of two beam acceleration. Timing synchronization on picosecond scale still needs to be improved (acceleration phase)
Friday
- Bunch length measurements along the machine (streak camera, BPRs, RF deflectors + OTR screens, CDR), cross-checking the devices.
Monday
- Improved recombination with CR, 13.4 A reached. Work on transporting the recombined beam to CLEX.

Issues: We have a problem with reading all BPM signals that we want, because the VME crates are old and slow to serve all the clients. A proxy machine is being put in place, which will hopefully solve the issue. "

LINAC3 (R. SCRIVENS):
The source oven was refilled on Friday.
The beam could not be delivered on Monday morning due to a problem with the RF.

LEIR (S. PASINELLI):
The first week of LEIR was dedicated to the setting up. The Linac was unstable for about half of the week until the source oven was refilled.
The RF specialist worked to optimise the beam, but also to improve the RF operation via INCA and the signal observation via OASIS.

The EARLY beam could be set to the PS, even if the setting up has to be finalised. The intensity, in particular, is lower than nominal.

PS-IONS (R. STEERENBERG):
During the week the PS was prepared for the ions, in particular the RF cavities and the magnetic cycle. The vacuum was also checked.

Later in the week, the beam could be injected, accelerated and extracted to D3.
S. Hancock commented that the acceleration could be done quite fast, basically by restoring the settings of last December. This for sure constitutes a good start for the progressing of the setting up.

B. Mikulec asked about the setting up in the SPS. D. Manglunki replied that the program foreseen was to send the beam to the SPS as soon as possible, but without acceleration. The setting up of the RF will be done not before week 35.

TI (P. SOLLANDER):
The only problems of the week were related to the LHC.

LHC interface with injectors (M. LAMONT):
The multi-bunch filling is still a great success. The physics will continue until the end of August with 25x25 bunches. Currently, 1 pb^{-1} could be collected by the experiments.

3. Schedule / Supercycle / MD planning

The current version of the 2010 official schedule (V1.7) is available at:
https://espace.cern.ch/be-dep/BEDepartmentalDocuments/BE/2010-injector-schedule_v1.7.pdf

The technical stop of week 35 has been confirmed. For the SPS, it could be longer than the scheduled 36 hours to allow for the vacuum recovery after the exchange of three MBB. The exchange is needed for the e-cloud studies.

D. Manglunki reported that the CTF facility will run also during the technical stop.
K. Kostro replied that during the technical stop there will be an update of the database. This could cause perturbations of the machine operations.
E. Piselli added that also ISOLDE will run in off-line mode.
Linac3 could be affected as well.

E. Metral reported that new MD blocks in weeks 44 and 46 will be added to the schedule soon.

All the colleagues should provide as soon as possible the activities for the next technical stop.

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, 17 August at 10:00 in 874-1-011.

Preliminary Agenda:

1) Follow-up of the last meeting
2) Status of the machines
3) Schedule
4) Special topics: Preliminary list of activities for the next technical stop.
5) AOB

6) Next agenda

Minutes edited by S. Gilardoni