

Minutes of the 19th FOM meeting held on 28.07.2009

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 18th FOM meeting were approved.

D. Küchler commented the intensities delivered by the Linac3 mentioned in the last meeting. The Linac3 design intensity is 50 μA . The maximum intensity delivered two years ago was 31 μA , while during stable operation 27 μA were available at the end of the Linac.

Currently 17 – 18 μA can be delivered. The only problem is that typically the optimisation takes about three weeks, and the source had to be opened recently. This reduced the time available for optimisation.

Even if the intensity is too low, the LEIR EARLY beam cycle will not be adapted to have multiple Linac injections for the moment.

Open actions from last FOM (short term):

- a) The colleagues are invited to send the activities for the next technical stop to the machine superintendents.

2. Status of the machines

Linac2 (C. DUTRIAT):

The Linac had a week without problems, apart from a trip of the RF on Thursday.

PSB (B. MIKULEC):

The PSB had a good week. On Thursday, the distributor level 4 had to be reset twice. A new thyatron was installed which solved the problem.

On Friday, an electrical glitch caused the trip of many systems. Unfortunately, LASER did not show any error message on the PSB consoles. K. Kostro added that in this case the CO responsible (M. Buttner) should be contacted immediately to trace the problem. A. Bland added that the router upgrade done by IT/CS has solved the network glitches also for the LHC cryogenics.

Also on Friday, the TIM server remained blocked and a reboot was not possible. The access piquet was called and he explained to the TI operator what to do in this case.

On Monday, BTY.DVT324 was not pulsing correctly; the problem was solved by the piquet power.

During the week, studies were done on the machine linear and non-linear optics, showing that during current operation the machine is very linear. Work on the single batch transfer of LHC beams continued. The 75 ns beam could be injected into the PS, and is now considered operational in both machines. Work is ongoing on the 50ns beam. Once operational, the single batch injection will free users both in the PSB and in the PS.

ISOLDE (P. FERNIER):

The run HRS run has been finished with a UC target at 30 kV without any problems on Friday morning. The GPS run with a surface target at 30 kV is ongoing without any problems so far. The users have beam since Thursday after the setting up and the proton scan. The REX setting up has been done in parallel to the normal operation in view of next weeks REX run.

One of the turbo pumps of HRS had to be changed.

ISOLDE users (A. HERLERT):

The users are happy.

PS (S. GILARDONI for G. METRAL):

On Monday, the setting up of the LHCPILOT was completed. The piquet power had to intervene during the night to fix the power converter of the gamma transition quadrupoles. This caused a 2 hour stop.

On Tuesday, the ion cycles have been prepared (MDION for the lifetime measurements, LHCION for operation). A timing cable for the ion injection septum was found cut, probably during the work on the new POPS.

On Wednesday, the setting up of the MTE continued. Two problems were found: the synchronisation of the extraction bump is very difficult due to the poor quality of the OASIS signal. CO will follow this problem. Furthermore, it was discovered that the tune measurement suffered from a timing problem, causing a user dependent delay in the acquisition of up to 6 ms as well as a time jitter of up to 3 ms.

During the entire week it was not possible to measure the orbit in the PS, since both the new and the old systems were not working and all the experts are on holiday.

Two hours were lost for the adjustment of the power converter of QKE16, which finally was finished on Thursday. Also on Thursday, the sublimation started to improve the ion lifetime.

The rest of the week was pretty good.

The last problem is related to the control of the GFAs (concerns equally the PSB).

Some of the GFAs are sometimes not taking the last function sent. Even if the re-acquisition of the sent function showed that the settings are the correct one, the previous settings are played. In this case the GFAs have to be re-initialised. This phenomenon has been observed for the low energy quadrupoles, the PFWs, the RF GFAs of the PSB and the MTE equipments. CO experts suppose that this might be related to the installation of the new CVORB and will follow the problem.

The false radiation alarms generated by the network glitches disappeared after the fix of last week.

S. Hancock asked if the transverse instability observed on CNGS and TOF has been solved. Y. Papaphilippou replied that the injection working point has been adjusted. S. Hancock added that the transverse emittances from the PSB look smaller than in the past. K. Hanke replied this will be verified. The measurements will be taken with the grids in the measurement line.

During the dedicated MD on Wednesday, no beam will be delivered to the users.

East Area ():

No report.

East Area Users (H. BREUKER):

The T7 line is on hold, as scheduled. DIRAC is taking data. The T9 user is late by 2-3 days, and they will start with beam on Friday. On T10 the users did not show up. The hodoscope of the CLOUD experiment is ready and beam studies will start on Thursday.

AD (L. BOJTAR):

The AD had a good week.

On Tuesday, the injection magnet DI.BHZ6045 tripped and FIRSTLINE had to intervene.

On Wednesday, a colleague from the ALPHA experiment forced an access door, and the expert had to intervene to fix the problem. The C02 cavity was tripping often and the expert had to be called during the late afternoon.

The stochastic cooling pre-driver had again problems on Sunday.

On Monday an intervention was done to fix a vacuum pump.

AD users (H. BREUKER):

ASACUSA had to do a big intervention of their equipment, with a stop of 2-3 days. The beam has been assigned to the other users.

NTOF (H. BREUKER):

The slope of the intensity delivered to the experiment has increased after the improvement of the water station shielding. Y. PAPAPHILIPPOU added that every free space in the supercycle is filled by TOF cycles, as far as compatible with the maximum load on the MPS.

SPS (D. MANGLUNKI):

The SPS had a good week. CNGS beam has been delivered with good efficiency. A stop was done during the weekend to change a broken water pump. S. Deleval added that radioactive water has been found in a tank in the transfer line where, in principle, the water should not be contaminated. An access was done to stop the automatic purging of the tank, which will now be manually emptied during the dedicated PS MD.

The efficiency of the CNGS is 85%, with the milestone of 10^{19} pot reached on Friday. This is a good indication for the goal of the $3.1 \cdot 10^{19}$ pot promised for the end of the year.

A few RF trips were caused by thunderstorms.

During the dedicated PS MD, an intervention will be done on the internal dump kicker, such that the beam energy can be increased to 450 GeV.

CNGS ():

No report.

SPS North Area ():

No report.

North Area users (H. BREUKER):

The CMS-CAL run finished very successfully. Seven different beam structures were used. The NA61 physics run will start soon, with a change of the wobbling parameters. The H6 line is ok. On H8, a day of the TOTEM run has been cancelled to allow for the line to be set up for the UA9 experiment. COMPASS is running without problems.

LINAC3 (D. KÜCHLER):

On Monday morning, the setting up of the source was hampered by many PS radiation alarms. After a number of alarms, D. Küchler, contacted the CCC, where the operators managed to fix the problem. D. Manglunki commented that, if this was due to an ongoing MD, the BLMs surveillance should be enabled also on the MD beams. Y. PAPAPHILIPPOU added that it would be better if the CCC is informed when people are present for a long time in the Linac3 tunnel. K. Hanke commented that the Linac3 setting up should be possible without any interference from the normal PS operation.

On Tuesday, a workstation had to be re-booted since a TGM timeout was continuously received and the knobs not available. A. Bland said that the problem has been understood, and the re-boot was the right solution.

On Thursday, the source tripped due to a water leak in a plastic hose of the plasma chamber cooling circuit, probably due erosion produced by high-voltage flashovers.

On Monday, some working sets were lost, after the reboot of DLN3POW1 the settings for the RS422 class power supplies were lost and the knobs for the RS422 class power supplies do not have the possibility to set “back to reference”.

Work is ongoing to improve the intensity.

LEIR (C. CARLI):

The week was good for LEIR. The efficiencies are better than during the last run. The intensity for the EARLY beam is a bit low due to the reduced intensity from Linac3. A lot of work was done on the LLRF, in particular OASIS signals are now available. The current work is concentrated on the synchronization at extraction.

Reduced intensity beam has been delivered to the PS since the middle of last week.

The acquisition of the transformers is still not working, due to the new digital TRIG card. Only the OASIS signals are available.

PS WITH IONS (D. MANGLUNKI):

The ion beam has been injected into the PS ahead of schedule and the life-time with and without sublimation was measured. Before sublimation the lifetime was about 1.8 s, it increased after sublimation and after a few days it had gone up to 5 s. It is clear that an automatic sublimation procedure, once the new PVSS system will be implemented, is needed

The main objective of this year is to finish the SPS RF commissioning.

G. Vandoni commented about the results of the lifetime measurements. The procedure has been changed compared to the past, using the same frequency for all the sectors. Since the advantage to have the sublimation is clear, a proposal to include this in the new PVSS system will be made.

CTF3 (P. SKOWRONSKI):

In the beginning of the week the gun was unstable, which made any progress impossible. On Wednesday morning access was made in order to repair the device. The connectors to the cathode were cleaned and squeezed to assure good contact and broken fans on electronics boards and racks were replaced. During the afternoon the circulating beam was re-established in the Combiner Ring and the beam transfer to the Two Beam Test Stand.

On Thursday morning a beam current of 3A was delivered to TBTS for decelerating structure tests. A recombination factor of 2 was established in CR, and 4.5A beam was delivered in order to further condition the decelerating structure in TBTS.

On Friday, an optics with smaller maximum dispersion was implemented in TL1 which enabled lossless transmission of 1.3us pulses to CR. Also the combiner ring optics was changed in order to improve the isochronicity of the ring. The circulating beam was set up and measured proving that the situation has improved w.r.t. the previous setup. Thanks to this a recombination factor 4 in CR with 11A beam extracted to TL2 has been achieved.

A. Bland added that the technical stop intervention related to IT/CO will affect also CTF3, so the operation should take into account those perturbations and eventually plans technical interventions as the rest of the complex during this period.

TI (P. SOLLANDER):

The main 466 kV transformer has been repaired and now the electrical network is back to its full power capacity.

3. Schedule / Supercycle / MD planning

The 2009 schedule (V3.4) is available at:

<https://espace.cern.ch/be-dep/BEDepartmentalDocuments/BE/Schedule2009.pdf>

The supercycle composition is available at [this web page](#).

During the dedicated PS MD no beam will be delivered to the users. Beam for ISOLDE will be available.

There will be a phone intervention on Wednesday between 20:00 and 24:00. The CCC phones will be always available.

The same day there will be a logging database update and a security patch update for RBAC.

The LHC TI tests of week 34 are delayed to week 39. D. Manglunki added that in this case the ion run should be prolonged until the end of week 39.

F. Tarita added that during the technical stop the autotransfer of the electrical network will not be available for tests of the protection system.

4. AOB

The colleagues should remember to communicate the activities for the next technical stop on 10 August to the machine superintendents.

5. Next meeting

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

Preliminary Agenda:

1. Follow-up of the last meeting
2. Status of the machines
3. Schedule
4. Final list of activities for the technical stop (V.Chohan)
5. AOB

Minutes edited by S. Gilardoni