

Minutes of the 23rd FOM meeting held on 25.08.2009

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 22nd FOM meeting were approved.

Open actions from last FOM (short term):

- a) BWS commissioning in PS and PSB. A MSWG will be held on Friday to review the performance of the BWS.
- b) Status of the tune measurement for ions in the PS. BI Is investigating.
- c) Faulty network connection alarms of the ARCON system. I. Floret reported that the problem has been solved.

2. Status of the machines

Linac2 (M. O'NEIL):

The Linac had a good week. On Wednesday the Frank-James of tank2 was changed. The beam stopper after the Linac was closed during one intervention and had to be moved a couple of times to open it before its status was correct. The problem seems to be related to faulty micro switches that will be exchanged at the next technical stop.

PSB (G. RUMOLO):

The PSB had a good week. On Wednesday, losses were observed on BLMs of ISOLDE. This was happening only for some cycles depending on the position in the supercycle. To correct the problem, the intensity was reduced and more pulses were added.

On Friday, instabilities were observed on the CNGS cycle due to malfunctioning of the transverse feedback, eventually solved on Saturday.

On Monday night, a MPS trip caused 5 hours of down time.

The commissioning of the BWS continued by comparing measurements in the ring and in the BTM line.

ISOLDE (E. SIESLING):

HRS: after the setting up of REX for MINIBALL, the run started on Friday. The separator tripped once and the DSC ISOPOW had to be rebooted. On Monday, the 7-gap RF cavity tripped. As summary, the REX run technically was very successful.

GPS: with the agreement of RP, the beam current was raised from 2 μA to 3.5 μA . The air activation was always below the acceptable limit. On Wednesday night the target temperature was at wrong values. The problem was fixed without causing any problem to the experiments. The run stopped on Friday and the target change on Monday was without any problem.

On Thursday, the facility suffered, as the rest of the complex, from the deleting of the files in the /acc directory. For ISOLDE, the references of the quadrupoles were lost. A. Bland mentioned that the files could be recuperated from the backup of the previous night. All the machines were affected, for example for the PS the MPS settings and the OP display were lost.

No users are foreseen on Tuesday and VAC will profit from this period to do some tests on the vacuum controls.

ISOLDE users (A. HERLERT):

The users were happy in particular for the successful REX run.

PS (Y. PAPAPHILIPPOU for G. METRAL):

The PS had a busy week. On Tuesday, an access was necessary to repair the gap relay of a 10 MHz cavity. On Wednesday afternoon, during an access at the door 115 (DIRAC), the video signal was lost. A patrol of the DIRAC area had to be done. On Wednesday afternoon it was realised that, to send as requested an MTE extracted beam to the SPS, the time offset of the PS and SPS had to be changed. This was necessary to be able to inject a MTE extracted beam on a CNGS cycle without changing the SPS cycles. The magnetic cycles of all the PS operational users had to be prolonged by 65 ms. On Thursday, during the re-programming of the cycles, the directory /acc was accidentally deleted, leaving the settings of the machine not saved but only in the hardware. The machine had to stop for about 1 hour to put the configuration in a stable and safe situation. Later, the EAST beams had to be cut for a broken ventilator of a power converter of a F61 line magnet.

Saturday morning, two modules of the injection kicker had a timing problem solved by the specialist. On Sunday afternoon, the BHZ377 power converter tripped. The power piquet was called but apparently the responsibility of the power converter was of FirstLine. The FirstLine piquet was called at 13:00 but, even working until late in the evening and with a support of another engineer, could not solve the problem. In the meanwhile, the CCC tried to contact the power converter expert and his section leader without success. Since the problem could not be solved, it was decided to cut the power converter and deliver beam to nTOF, without the possibility of sending the beams to the SPS. On Monday, the power converter specialist could restart the power converter after also a reset of the CCV values from the CCC. In total 19 hours of SPS physics were lost, but nTOF could profit of more pulses.

Later on Monday, the BFA9 tripped and the specialist had to intervene.

J.-P. Burnet mentioned the FirstLine piquet should have realised that the power converter of the BHZ377 is not under his responsibility. A spare power converter is

available and could have been connected. To avoid this kind of problems in the future, the piquet power has been instructed to check, when called, if the faulty power converter is under his responsibility. Anyhow, the management should have been informed, since this has been considered as a major fault, and since most the EPC colleagues are aware of the availability of the spare power converter.

K. Hanke asked about the status of MTE. S. Gilardoni replied that the MTE beam could be injected into the SPS. However, as reported to the IEFEC, there is still the problem of the capture efficiency which generates a not flat spill. More studies, in particular on the theoretical side, will be done to understand the capture efficiencies and the beam instabilities observed.

East Area (L. GATIGNON):

There were no particular problems. All lines are running except T11.

East Area Users (H. BREUKER):

T7 was not running due to the radiation cool-down before an access. DIRAC had to stop the run on Friday due to the missing air conditioning in the area, with the risk of damaging the experiment electronics. On T9, the users will be changed on Tuesday. The control of the target type will be left to the experiment. On T10, tests of a calorimeter were ongoing.

AD (T. ERIKSSON):

On Tuesday, intermittent beam losses were observed all along the cycle. This was related to a too high CPU load on a DSC when the Samplers were used. This was confirmed later in the week. J. M. Nonglaton is following the problem. On Friday, the DE0.QN40 had a problem with the water flow. On Friday evening, the electron cooler tripped. The problem was related to a bad air conditioning in the Faraday cage affecting the power converter. The filament of the cooler had to be changed. At the same time, a fire alarm was triggered probably by dust in the malfunctioning air conditioning.

AD users (H. BREUKER):

ATRAP was running smoothly. ASACUSA was running even better than in the past. The new trap has higher efficiency by about a factor of ten.

NTOF (H. BREUKER):

The intensity is increasing and approaching the theoretical curve, in particular thanks to the fact that every pulse not used by others was sent to nTOF.

SPS (D. MANGLUNKI):

The SPS had a good week with the beam availability of 79% for SFTPRO and 76% for CNGS.

There were no major perturbations of the physics beams in the SPS during the week. On Thursday the phase between PS and SPS was delayed by 65 ms to allow the injection of the MTE beam as mentioned in the PS report.

During the weekend there were two perturbations: one on Friday evening, when a ROCS-fesa server was giving spurious interlocks and one on Sunday noon from the BHZ magnet supply in the PS-SPS transfer line as mentioned in the PS report.

On Monday there were the first tests on CNGS with an MTE extracted beam.

CNGS (E. GSCHWENDTNER):

The run was smooth. The access foreseen on Wednesday during the dedicated MD will not take place, since the water sump in the transfer line will be emptied during the next long MD on week 38.

SPS North Area (L. GATIGNON):

There was a trip of the spectrometer of COMPASS.

North Area users (H. Breuker):

On H2, the NA61 is ongoing without any problem. On H4, the COMPASS tests finished even if the data collected were not sufficient.

On H6 there were 3 different users. On H8 there was the ATLAS test beam.

LINAC3 (M. O'NEIL):

The Linac had a quite difficult week. The intensity was oscillating so much that the source had to be retuned every 2 hours. The intensity was limited to about 20 μA . Between Monday and Wednesday, many trips of the solenoid occurred due to the increased temperature in the Linac room, causing the trip of the temperature interlock. The air conditioning was already at its maximum. The demineralised water was found 1 degree too high. The source was retuned to decrease the power required by the solenoid, and the water exchanger was cleaned. Those two interventions solved the problem.

The ramping cavity had to be manually retuned due to the room temperature.

One PLC was found blocked and it was difficult to restart after the triggering of the temperature interlock. On Friday it is foreseen the change of the oven to refill the Pb. It is not possible to switch to the second oven. The filling has been planned to avoid a refilling during the week 39.

K. Hanke mentioned that the temperature problem has been solved but there is still the issue of the low intensity. M. O'Neil replied that the tuning was difficult due to the numerous temperature interlock and the fact that Pb had to be spared to avoid an early oven refilling.

LEIR (M. CHANEL):

The machine was very stable. The EARLY and the NOMINAL beams have been provided to the PS regularly. A lot of work was done on the RFL.

C. Carli tried to measure the matching between the PS and LEIR and found a quadrupole set at a wrong value by about 30%. Measurements will continue on Wednesday in the PS. On Thursday, LEIR suffered as the other machines from the mentioned /acc directory deleting.

M. E. Angoletta pointed out that there are still problem with the controls. The old GFAs and the old applications have been used even if there were many iterations to have INCA and LSA operational. After two months there are still problems.

The goal is to have a complete LLRF digital system in place before the end of September.

PS WITH IONS (R. STEERENBERG):

The ion cycle sent to the SPS had to be adapted as mentioned in the PS report, to take into account the 65 ms shift needed for the MTE-SPS injection. The first solution

implemented, i.e. a prolongation of the extraction flat top, will be not compatible with multiple injections in the SPS due too large RMS currents on the F8L and PFW. An optimised cycle will be prepared. The matching with LEIR and TT2 will be further investigated. After the FOM, test will be done to measure the tune.

SPS WITH IONS (D. MANGLUNKI):

The main activity in the SPS last week was the setting up of the ion beam on a parallel MD cycle. For this, new RF control modules are being commissioned. By the end of the week the ion beam could be captured and the orbit and tune measurements were made to work.

CTF3 (S. BETTONI):

The 4x recombination in the combiner ring has been improved. About 13.5 A of flat recombined long pulse (280 ns) 1.5 GHz beam has been obtained with respect to the about 11 A short one of the past. The conditioning of the PETS in TBTS line has been started using 8 A of this beam. Using the recirculation about 140 MW (peak) power has been produced. The oscillation of the MKS02 disappeared, after that a system to monitor it has been installed. Since Monday afternoon, more than 5 degrees oscillations of the phase of MKS03 are observed. The problem is under investigation. A severe problem are the BPMs in all the lines after the combiner ring, where special Lapp electronics has been installed. The majority of them gives no signal. After a number of interventions by CERN staff, experts will come from Annecy to try to fix the problem.

In parallel also the probe beam linac has been put back in operation. The beam has been transported till the end of CALIFES and some part of it has been delivered to the beginning of TBTS.

TI (P. SOLLANDER):

On Monday, the repaired cable was put back in operation.

A few weeks ago, during the cleaning of the LHC point2 cooling tower, hot water was released in the Allondon, causing the death of few trouts. CERN will replace the trouts.

3. Schedule / Supercycle / MD planning

A new version of the schedule 2009 schedule (V3.5) 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 MD on Wednesday there will be no beam for the PS-SPS users. F. Tarita said that they are in the process of scheduling tests of a transformer according to the accelerator schedule.

The ion source refill will be done on Friday 28/8.

The UA9 ions test could be done eventually on Tuesday 22/9.

The TI2/TI8 ion tests will take place on Monday 28/9 with the Linac studies starting on Tuesday 29/9.

E. Mahner added that the schedule for the Linac3 tests has been frozen since the vacuum experiment in the Linac requires the participation of colleagues from GSI.

4. AOB

S. Hutchins mentioned the intention to create a list of all “EIS” (element important pour la securite). The problem is that there is some confusion, in particular between the names of the magnet in the safety chain and the names of the associated power converter.

The responsible for the machines/equipments are invited to send any information to fill the table available [here](#).

Also the information about the access system will be updated.

5. Next meeting

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

Preliminary Agenda:

- Follow-up of the last meeting
- Status of the machines
- Schedule
- Linac 2 vacuum problems (t.b.c.)
- AOB

Minutes edited by S. Gilardoni