# Minutes of the 39th FOM meeting held on 12.10.2010

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 38th FOM meeting were approved.

Follow-up from the last FOM:

a) Status of the PS B-field fluctuations.
R. Steerenberg reported that there has been no progress on the subject.

b) Status of Linac 2 radiation survey. G. Bellodi reported that a series of tests were done last Friday by R. Scrivens. Two different types of monitors were used. The source of the radiation could not be identified, but apparently the problem is at the end of the Linac. The major concern is related to a possible presence of visitors in the zone during a period with too large radiation for the public. An alarm has been installed in the zone.

c) Status of ISOLDE cooling station. S. Deleval reported that it is not possible to draw any conclusion about the problem of the cooling station with the data available. Some tests are foreseen in the future, in particular during the next target change.

d) Status of CNGS ventilation. S. Deleval reported that the de-humidifier has been repaired but it broke again. It has been decided to run without the de-humidifier until the next technical stop. Meanwhile, a surveillance of the air has been put in place.

e) Varilog/Passerelle INCA installation. The new version of the passerelle has been made available for installation via CMF. A problem was found concerning writing integer variables via the Varilog. S. Deghaye added that the problem has been understood and will be corrected soon. This will not require a new release of the passerelle.

f) INCA status. R. Steerenberg reported that the problem with the Drive was solved. In particular, it was possible to drive the LHC150 ns user on the LHCPILOT successfully.
There is a problem with the duplication of information in some devices, in particular for the virtual GFAs with respect to the real GFAs. A solution to this problem will be implemented soon.
Individual CCV values were removed.

R. Steerenberg reminded that every time that a LL hardware change is done, the information must be propagated to LSA.

The beam statistics can be found here.
A new web page with the accelerator statistics (beta version) is available here.

## 2. Status of the machines

**LINAC2** (G. BELLODI):
The Linac had only one problem on Friday which caused a short stop. An RF tube had to be changed.

As mentioned in the Action section, investigations are ongoing to understand the unusual high radiation levels in the Linac tunnel and adjacent rooms.

**PSB** (B. MIKULEC):
During the night between Tuesday and Wednesday large losses were observed due to a wrong beam radial position. The LLRF piquet found that there was a problem with the distribution of the Btrain. A fast fix was implemented with the HW definitely fixed the following morning. The intensity of the beams, however, was fluctuating for about 3 hours.

On Wednesday there was a problem with the MTG that could be solved only on Monday. During the reboot of the MTG, the beam stopper was put in the IN position but it was necessary to send the OUT command many times before the stopper could be open.

On Thursday the BT.BHZ10 tripped and it was not possible to restart it remotely. The piquet EPC had to intervene to switch the magnet supply on the spare power converter.

On Friday morning, just before the stop of the Linac, it was found that there were large losses on the LHCPILOT user (LHC150 ns beam) in ring 4. A. Findlay found that the problem was due to the vertical shavers. The piquet EPC had to change a cable carrying the CCV of the scraper position to the DAQ. During this intervention, the beam could be delivered to the LHC by reducing the intensity on ring 4 and without shaving the beam.

During the week there were some problems with the PS stray field compensation, which was not correctly applied and caused large injection losses. The problem was solved by J.-M. Nonglaton who requested the reboot of two servers.

Concerning the beam status, the consolidation of the LHC75 in single batch transfer is progressing.
Measurements done with the BWS to qualify the new PMs installed during the last technical stop. A number of issues were found which are under discussion with BI.

**ISOLDE** (D. VOULOT):
ISOLDE had a good week.

GPS: there was a target change on Thursday and the physics run is planned to start on Tuesday.

HRS: REX was producing $Ar^{44}$ for MINIBALL. The only problem of the run is related to the fact that the REX-EBIS cathode is dying. The decision to change it or not will be taken before the next REX run.

K. Hanke added that the ISOLDE watchdog requires more tests.

**ISOLDE users** (M. KOWALSKA, mail):
The HRS users were very happy.

**PS** (A. GRUDIEV):
The PS had a good week.

On Thursday the 80 MHz cavity in SS08 tripped. The intervention to fix the problem caused one hour un-availability of protons for the LHC filling.
Later, the F16.QFO215 tripped and the piquet EPC had to intervene.

Concerning the status of the LHC beams, the LHC150 ns beam has been installed on the LHCPILOT user. The LHC75 setting-up is progressing. The LHC50 preparation has not started yet but should be ready for the SPS by Thursday. S. Hancock added that the beams had to be re-built after the recent HW changes in the LLRF due to the different beam requests from the LHC. The system had to be extended to be able to cope with all the different LHC bunch spacing hat are now requested.

S. Gilardoni announced that there will be some tests for MTE by disabling the low energy orbit correctors. During these tests, larger losses might appear on the high intensity users. In general, the MTE setting-up will continue also sending the beam to the SPS whenever possible.

**EAST AREA** (L. GATIGNON):
There was a problem with a rectifier in the T7 line.

On T9, there was a user change.

The CLOUD run started.

**EAST AREA USERS** (H. BREUKER):
The CLOUD experiment will have the priority concerning the number of spills until the end of their run. The supercycle composition will be adjusted by R. Steerenberg according to this request.

**TOF** (A. GRUDIEV):
The integrated intensity delivered to nTOF reached the promised one.

R. Steerenberg added the PS has been encouraged to continue delivering the maximum possible intensity to try to approach the initial value requested by the experiment. The experiment will have a long access period during which exceptional

safety measurements will be put in place to avoid any accidental beam presence in the experimental zone during that period.

**AD** (T. ERIKSSON):
The AD had a very good week, with about 100% availability of the machine and 98% availability for the beam to the experiments.

**AD USERS** (H. BREUKER):
The experiments are satisfied.

RP took new measurements of the dose field in the experimental areas, finding unusually high values. The consequences of these results are not clear yet, considering that the area hosts office space for the users and it is accessible to the visitors.
T. Eriksson added that barracks outside the AD building will be probably installed in the near future to extend the free office space. A meeting about this subject will take place after the FOM.

**SPS** (K. CORNELIS):
The SPS had a good week.

At the beginning of the week, the filling of the LHC was a bit difficult due to the frequent trips of some power converters of TI2. The problem could be solved on Thursday.
On Thursday there was a 24 hour long MD with the physics restarting on Friday morning.

On Friday, during the stop of the Linac2, a transformer of BA2 has been replaced plus other minor interventions.

The weekend was very productive for the CNGS and the fix target physics since there were no beam requests from the LHC. The kicker expert could intervene on MKE6.

On Monday, the CNGS had to stop due to a problem with a thyristor. The intensity delivered to the facility it is still well above the promised one, by about 10%.
The CNGS duty cycle is suffering from the supercycle composition during the ions setting up.

F. Tarita announced that some tests need to be done on the 400 kV cable feeding BA4. These tests should take place during the technical stop of the 1 November during which no power will be available only for the machine elements. The FOM endorsed the intervention.

**CNGS** (E. GSCHWENDTNER):
There was a first repair of the ventilation unit, i.e. on the de-humidifier, by changing the motor to suck the air into the system. Unfortunately the problem was finally found on a motor inside the de-humidifier. This was exchanged once but it broke down again. It was decided then to run without the de-humidifier until the next technical stop.
One of the reflector power convert thyristors had to be changed on Monday.

**NORTH AREA** (L. GATIGNON):
A trip of the chain11 was caused by a broken switch on a TAX. In this case, the chain has to trip.

**NORTH AREA USERS** (H. BREUKER):
The LHCf detector is ready to be installed.

TOTEM will come back for a second round of measurements in November.

**CTF3**:
No report.

**LINAC3** (G. BELLODI):
The Linac could deliver on average about 20 muA. The source tripped twice, on Monday and on Thursday and some re-tuning was necessary to fix the intensity fluctuation.

The oven was refilled on Monday and beam should be available by Tuesday evening.

In order to improve the beam intensity, R. Scrivens tried to retune also the Linac.

**LEIR** (S. PASINELLI):
The C41 cavity has been commissioned to be available has hot spare in case of a failure of the C43.

During the attempt to increase the beam intensity by retuning the Linac, the beam could not be injected into LEIR.

The trips of the DSC responsible of the intensity measurements and the missing intensity values on the VISTAR made the follow up of the machine operation difficult.

**PS-IONS** (A. GRUDIEV):
The ion beam is running as the other normal PS users.
A. Grudiev reminded that in case of failure of an 80 MHz cavity for protons, the 80 MHz cavity for ions has to be retuned to be used for protons. D. Manglunki asked if this is really necessary. S. Hancock replied that the LHC proton beams can be properly produced only by using two 80 MHz cavities at the correct frequency.

**SPS-IONS** (D. MANGLUNKI):
The SPS ion setting-up is progressing. Unfortunately, a large part of the dedicated ion MD was lost due to the problem with the source and the failure of the TT2 quadrupole (see PS report). Some time could be recovered from the cancellation of the MD with the COAST beam that was incompatible with the LHC filling request.
Four injections of the early beam could be taken and the beam could be accelerated through transition without too many problems. There are still some losses on the injection flat bottom.
Unfortunately there is only one MD left for the setting up of the nominal LHC filling cycle.

K. Hanke replied that in case, a time slot will be found to continue the setting up.

**TI** (P. SOLLANDER):
P. Sollander announced an intervention on the batteries of the UPS system of the CCC foreseen starting the 6 December. The machine operation during the 6 December should not be perturbed since only one UPS out of the 6 will be un-available.
**LHC interface with injectors** (M. LAMONT):
The LHC was running with 248 bunches per beam with a very good luminosity.
The filling was done with batches of 24 bunches from the SPS.

There is a problem with the beam1 injection, near the septum.

The aim for the next part of the run is to try to have the smallest possible emittances with the maximum beam intensity to study beam-beam effects. First, the LHC150 should be provided with intensity larger than nominal within the smallest possible emittance.
Then the LHC50 will be taken with nominal intensity and nominal emittance to study parasitic collisions.

## 3. Schedule / Supercycle / MD planning

Version 1.8 of the 2010 injector schedule is available at:
https://espace.cern.ch/be-dep/BEDepartmentalDocuments/BE/2010-injector-schedule_v1.8.pdf

A draft of the 2011 schedule not approved yet by the Research Board, is available at:
https://espace.cern.ch/be-dep/FOM/Presentations%202010/09-21-2010/2011-injector-schedule_v0.1-5.pdf

The colleagues should send the activities foreseen for the next technical stop to the machine superintendents.

The ion fragmentation tests as the UA9 run have been extended to the last week of operation (w 48).

K. Cornelis reminded that the North Area will need all the CV related system available in week 48.

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, 19 October 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