Minutes of the 37th FOM meeting held on 28.09.2010

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 36th FOM meeting were approved.

Follow-up from the last FOM:

a) Status of the PS B-field fluctuations.
R. Steerenberg reported that the issue has been re-discussed also during the MTE workshop, because energy fluctuation at extraction has been observed for LHC-type beams and CNGS/SFTPRO CT extracted.

b) INCA status.
A new release was done on Wednesday to fix the problem of the PPM copy and archiving. However, other problems appeared, some of them related to the declaration of the samplers in INCA and to the PTIM class.
S. Hancock asked if there is an INCAified version of the varilog that can be safely used with INCA. A. Bland replied that the last version compatible with INCA has been installed on the two PCs available in the CCC. G. Metral added that this version of the new passerelle plus the varilog have been tested and are working correctly.
S. Hancock replied that the same version should be made available in the PS central building. R. Steerenberg added that unfortunately there are different versions of the passerelle available via CMF and not all of them are INCA compatible. CO should take care to put only the right version of the passerelle.

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 (F. GERIGK):
One quadrupole of tank1 tripped on Tuesday. The EPC piquet had to change a power converter.

On Thursday, the watchdog cut the beam. One of the beam stoppers status in the interlock chain was not following correctly the real position of the stopper. An intervention to fix the problem will be done during the next technical stop.

The high radiation levels around the source have been monitored continuously: the reason of the un-usual high levels could not be found yet. Measurements have been done to determine the type of radiation. After more information about the results will be available, the visitor service will be informed.

K. Hanke said that the update of the status of the beam stopper showed by the interlock console can take up to a few minutes. F. Gerigk added that the correct status is shown after sending twice the command in-out to the stopper.

N. Cohan asked if there were more radiation alarms in the Linac control room. F. Gerigk replied in the negative. K. Hanke added that there is no difference in the Linac intensity requests with respect to the past.

PSB (J. TAN):
The PSB had a good run with only a few technical problems.

On Wednesday morning, the ISOLDE beam was stopped following a request of RP due to a ventilation fault. The fault did not appear on the alarm system and did not trigger an automatic beam interruption.

On Wednesday afternoon, losses appeared on ring4 due to a problem with the RF related to a faulty connector.

On Friday afternoon, there were losses on the NORMGPS user due to some beam loading on the C02 cavity. The longitudinal emittance was slightly increased with the C16 cavity to solve the problem.
At 17:00, a water leak was found inside the power converter of the spare converter for BTY.BVT101. Once the water circuit was closed, the operational power converter went off, probably due to the water. FirstLine had to intervene again to fix the problem. This caused a interruption for ISOLDE of 1 hours and 45 minutes.

There were no particular problems during the weekend.

The STAGISO beam has been prepared and is ready to be sent to ISOLDE after the tests of the watchdog. BI will need some beam time to test the transformers following the issues with the watchdog appeared during the last STAGISO run.

K. Hanke reported that the ISOLDE ventilation stopped working in normal condition at about 3:30 AM on Wednesday, while RP asked to cut the beam only at 7:30 AM. ISOLDE was running for about 4 hours with the ventilation not being in normal operation mode.
S. Deleval replied that the ventilation worked fine all the time, the only problem was that the zone was under too large under-pressure. Actually, this condition has not been considered so far as a failure causing an automatic beam stop. The interlock chain can be changed to take this into account. In any case, an alarm in the zone is triggered.
S. Hutchins said that this condition should be included in the interlock chain. The RP representative added that any fault of this kind should trigger the safety chain.
S. Deleval commented that the best solution would include the separation of the different ISOLDE areas to avoid problems between the separators, the tunnel and the

class A laboratory. Everything should be made air tight with buffers and SASs in between.
This intervention could be done in a normal shutdown and it is under discussion with R. Catherall. This discussion already started before this accident.
S. Hutchins added that there should be a warning threshold for the alarms in the zone to trigger an early evacuation. A case like the one mentioned could have caused an unsafe situation if someone was working in the area.
S. Deleval added that a warning horn is in the area but it was not properly connected.
S. Hutchins replied that in this case an automatic interruption of the beam is the best safety measure. E. Siesling added that an evacuation alarm should be also in place because of the eventual air activation. There will be a follow-up meeting with S.Hutchins, RP and CV.

ISOLDE (E. SIESLING):
ISOLDE had a good week despite the ventilation problem mentioned.

GPS: the run was done with the full REX chain and the RILIS laser. The yields were even larger than expected.

HRS: a target exchange was done on Thursday, with the setting-up ongoing.

The problem with the ventilation of the class A laboratory and the tunnel has been mentioned in the PSB report.

There was again a problem with the water cooling system. On HRS, the flow was fluctuating without a clear reason. A new survey will be done at the next target exchange.

Concerning the problem with the GPS HV, the change of the electrode tip did not help in increasing the maximum voltage reachable, which is still limited to 40 kV. This seems related to the FE itself, which should be replaced during the next Xmas shutdown.
K. Hanke added that discussions are ongoing to decide if the intervention should be postponed to 2012 to profit from a longer radiation cooling time. A decision concerning this intervention will be taken soon.

A problem with the RFQ gas flow was solved during the week.

On Monday there was a problem with the GPS users. The HV was not stable due to a problem with a modulator.

K. Hanke asked when ISOLDE will take the STAGISO. The beam will be taken from Wednesday on, after the tests of the watchdog.

ISOLDE users (M. KOWALSKA):
The GPS users were very happy about the very good yields. The run was to observe the Be^{11}, but even Be^{12} could be seen.
The users could finish even one shift earlier, which was then used to do some tests.

A proton scan should be done before the STAGISO run.

On Friday there will be the last GPS run with argon.

PS (S. GILARDONI):
The PS had a pretty calm week.

On Monday there was an access to change the relay-gap of the 10 MHz cavity in SS36.

On Tuesday, the radial position GFA declaration was changed to allow the proper integration in INCA. All the beam radial position had to be revised during the week to take into account the new way to manage the GFA.

On Wednesday there was a new INCA release including the PPM copy and archiving function updates.

On Thursday the EPC expert changed the cycling of the F16.QFO225 in TT2. In some cases the power converter could not do the de-magnetization cycle correctly, causing losses on TOF at the end of TT2.
With the new INCA release, some application could not work correctly any longer, like the OP display, and the settings of some timings could not be changed. The problem was solved on Friday.

On Saturday, the BWS was not working. Apparently this was a problem related to the application and not the instrument itself. The application was not working on all consoles. Then there were some doubts on the measurement precision.
During Saturday night the controls piquet had to change a TG8 card of KFA45 .

Concerning MTE, different measurements continued plus the steering with the SPS. The steering, as last week, was done without YASP as a problem has been found in YASP for the MTE user. J. Wenninger is investigating it.

K. Hanke asked about the status of the pickups at the end of TT10. K. Cornelis replied that the pickups have a controls problem but the acquisition seems to be correct. The pickups will be checked during the next technical stop.
S. Gilardoni added that for the time being the steering of MTE beams will be done as in the last week using the screens and the grids in TT10.

EAST AREA:
Nothing to report.

EAST AREA USERS (H. BREUKER):
The run of the CMS pixel scheduled to start on Wednesday has been cancelled. The empty slot will be taken by NA62 to test the Gigatracker.

The ALICE test beam with the muon calorimeter has been concluded.

TOF (R. STEERENBERG):
The facility received so far about 90% of the scheduled intensity. The final integrated intensity should be reached by the middle of next week.

H. Breuker added that by extrapolating the current intensities it will be possible to deliver about 50% of the original intensity requested by TOF.

AD (K. MIKLUHA):
The AD had a very good week.

The bunch rotation cavity DR.C10-26 tripped twice on Wednesday causing some losses. Later it was found that the power supply of the D.BHZTR23+24 had a very noisy signal. Finally, it was found that the intensity reduction was caused by the settings of the cavities and the electron cooler.

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

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

There were some accesses during the week due to repeated failures of the ventilation. The very last one took place on Saturday. The problem could be identified on the air-drying system.
S. Deleval reported that the system is under monitoring. Apparently the control system was not working correctly in the past, causing now this chain of failures.

The access in TT10 before the floating MD was cancelled since it is believed that the PUs at the end of the line are now working correctly.

Progress was made on the ion setting up, without any beam due to the vacuum problem in the source. The magnetic cycle was used without beam.

CNGS (K. CORNELIS):
Except for the ventilation problems, the facility is running without any problem.
The integrated intensity delivered is still well above the promised one.

NORTH AREA:
Nothing special to report.

NORTH AREA USERS (H. BREUKER):
NA61 had a problem with the gas system of the TPC.

On H4 and H6 there were new users.

On H8, the UA9 went very well. TOTEM will start the test beam soon. This will be fundamental since the decision on the installation of the T1 spectrometer in CMS will depend on the test beam results.
In case of positive results, the start up the LHC in 2011 might be delayed due to the installation of the spectrometer.

CTF3 :
No report.

LINAC3 (D. KUCHLER):
On Thursday, the Linac could deliver 25-26 muA, with a few shots even at 29 muA. This proves that the stainless steel plasma chamber can have the same performance as the old chamber.
Unfortunately, later on there was a vacuum leak on a bellow after the source. The bellow had been exchanged during the last Xmas technical stop to avoid this kind of problems. After the vacuum tests, the leak was sealed with some varnish. It was however decided not to restart on Monday in this condition since the CERN workshop could produce a new vacuum chamber. The chamber was installed during the FOM and the beam is foreseen by Friday. It would not be possible before since the source has been vented twice.
D. Kuchler wanted to thank the workshop for the rapidity in realising the new chamber.

There is still the problem of the too high temperature in the Linac3 zone. A new temporary air cooling system has been installed but the reason of the high temperature is still not clear. S. Deleval replied that the system will be renovated during the Xmas technical stop.

LEIR (D. MANGLUNKI):
The LEIR operation was pretty good, whenever the beam was available from the Linac3.

The polarity of a magnet in the ETL line changed twice without any apparent reason. The problem was found on the controls side.

M. Widorski made the results of the radiation survey on the passerelle on top of LEIR available. Measurements have been taken in a period simulating the maximum losses in the zone near the passerelle. With the current machine operation, i.e., with lead and the current intensities, the passerelle is considered safe during LEIR operation. The door 203 conditions will be therefore modified such that they are always in “safe” state. In case that the operation mode of LEIR will be changed, new species, new intensities, the survey will be repeated and the door 203 condition re-activated if necessary.

PS-IONS (S. GILARDONI):
The ion beam is running as the other normal PS users.

SPS-IONS (T. BOHL):
The SPS will make use of the ion magnetic cycle even if the beam will be available only on Friday.

TI (P. SOLLANDER):
See the ventilation/cooling problems already mentioned in the various reports.

LHC interface with injectors (M. LAMONT):
The current operation is with 104 bunches per beam. The peak luminosity is now at about 3.5 10^{31} 1/cm^{2}s

R. Steerenberg asked about the intensity per bunch and the emittances. M. Lamont replied that the higher intensity the better. R. Steerenberg replied that the nominal intensity is regularly delivered. Concerning the emittances, the smaller the better for the luminosity but this could cause problems with the LHC safety.
Currently the emittances (H, V) are about 2 mum.

R. Steerenberg added that the agreement in the past concerning the emittances was thatany requested emittance blow up would be done by the SPS just before transfer to the LHC.
This was meant to avoid spoiling the nominal emittances in the injectors. Currently the emittance increase is done in the PS.
K. Cornelis replied that the necessity to do the emittance blow up in the PS was due to the continuously changing requests from the LHC. As the equipment for the emittance blow up in the SPS is not ppm, it was very difficult to provide very different emittances for different cycles. If the LHC requests are now stable, the situation could be revised and the blow up be done exclusively in the SPS.

3. Schedule / Supercycle / MD planning

Version 1.8 of the 2010 injector schedule (V1.8) 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 will be a floating MD next week. The exact times and MD topics will be allocated by the MD coordinator.

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, 5 October at 10:00 in 874-1-011.

Preliminary Agenda:
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Minutes edited by S. Gilardoni