Minutes of the 4th FOM meeting held on 22.02.2011

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 3rd FOM meeting were approved.

Follow-up from the last FOM:

a) Status of the PS B-field fluctuations.

G. Métral reported that the Bdot measurement performed between C25 and C50 is re-calibrated every 15 cycles, and that the B-UP event synchronisation can be lost from time to time, which may be the reason for the observed B-field fluctuations. The change from C100 to C50 of the end of the time window for detecting the peaking-strip was done in 2009. Measures are put in place to solve this issue and this is followed up by the PS-OP team.

2. Status of the machines

LINAC2 (G. BELLODI):

Linac2 had a good week.

A temporary fix enabled to work around the PS stray field compensation issue that occurred on Friday: the compensation was disabled to avoid powering one of the correctors with a wrong polarity. The problem was permanently fixed by putting back a missing timing.

On Saturday, one of the quadrupoles of tank1 failed. First it could be reset, but soon it tripped again and could not be reset any more. The piquet EPC had to intervene to fix the power converter.

S. Gilardoni asked if the triggers of the watchdog were really related to the beam conditions. K. Hanke replied that the new watchdog triggered as expected (except once) and is working as it should.

PSB (K. HANKE):

The setting up of beams is continuing.

The tomoscope was not available on Friday as well as the BSM. It came back but tripped again. A problem with the scope is feared, but S. Hancock suggested that the problem is related to the DSC, which controls both the tomoscope and the BSM. The issue should be followed up. R. Steerenberg added that new scopes for the tomoscope and the BSM arrived at CERN but will not be immediately available. The new hardware will rely on existing software.

Since Monday, losses are observed in ring 1 on the SFTPRO beam along with a distorted longitudinal distribution. Cavities C16 or C04 are suspected. HL and LL experts are currently working. It is still unclear if the solution of the problem would require an access to the tunnel. To be followed up. After the meeting the problems disappeared without being understood.

The beams currently available are LHC50 (single batch), LHC75 (single batch), LHC150 (single batch), MD1 for the MTE setting-up, LHCPROBE, LHCINDIV, CNGS and SFTPRO (up to nominal intensity).nTOF is currently being worked on. S. Gilardoni asked what intensity is considered nominal for the CNGS this year. R. Steerenberg answered that is the one producing 4e13 p out of SPS.

The preparation of the LHC25 (A and B) started.

PS (G. MÉTRAL):

The setting-up of the LHCPROBE and LHCINDIV is completed and SFTPRO is almost ready.

The re-phasing of the 200 MHz cavities was done on Monday, with a beam of 1e13 p. The cavities are now operational for the different longitudinal blow-ups. Regarding the energy matching between the PSB and PS, the PS injection field for all beams was set to 1012 Gauss.

As mentioned during the last FOM, the MTG user names have been redefined on Tuesday, after which CO had to re-build all the DSCs of the complex. S. Hancock said that changing user name is not transparent for BI and RF SW, where in particular the user names are either hard coded or stored in local files. In particular, one of the applications checking the consistency of timings with respect to a stored reference (TSM) is not working any longer. CO and R. Steerenberg will follow-up the problem.

On Wednesday, the vertical wire scanner in SS85 was blocked in the beam due to a failure of the motor. The wire was manually moved and later the motor replaced.

A pressure rise was observed in Section 68 (factor 100) but is improving with time. E. Métral mentioned that the impedance of the new wire scanner tank may be the reason for heating (it had been simulated in 2010), but one should wait to see if we get back

to normal pressure values. The outgassing of the internal surface might explain the problem. J. Hansen will monitor regularly the pressure.

There is a request to stop all beams from 9:00 to 11:00 on Wednesday for an intervention on POPS. This stop has been coordinated with the LHC, which will stop for an intervention on the cryogenics. The PS stop was confirmed by the FOM.

There was an intervention on the acquisition chain of BLM44. The integrator card was changed and now the offset registered with no beam is no longer present.

The Bdot signal is more noisy than previous years. It is not clear yet if the noise is real, or if it is due to the fact that the Bdot signal cables are located nearby the POPS cables and this causes some interference. Marco Buzio is following this up by measuring the Bdot at the reference magnet.

Concerning the beam preparations, the LHC75 is ready, the LHC150 is well under way, MD1-MTE beam was used. The first islands of MTE were produced but it is not possible to extract them because of the changed polarity of the KFA21 for the extraction tests with the CT elements. The SFTPRO is ready at reasonable intensity.
The TOF beam was sent on D3 with a reduced intensity. The main priority is now the LHC25 double-batch which has to be ready by March 1st.

An energy matching using the LHCINDIV between the PS and the SPS was done.

SPS (E. MÉTRAL):

The current priority is setting up of the 25 ns double batch for a scrubbing run in the SPS.

On Monday the realignment of 7 quadrupoles was done. The rms orbit on SFTPRO at 400 GeV/c was reduced (H: 3.7 mm to 2.6 mm and V: 3.1 mm to 1.7 mm).

The obstacle mentioned last week was found to be the BBSH.21778 which was IN instead of OUT. K. Cornelis mentioned the need to check the polarity of all these BBS, in total 13, before the beginning of the NA setting-up. This requires an access of 1 day at least. It was agreed to do this during the technical stop in week 13.

H. Vincke mentioned that it would be better to have the first TS before high intensity beam as scrapers will be installed in LSS1. However it was clarified that the date for the technical stop is fixed. The permission for the installation will depend on the activation measurements in the zone. In any case, the scrapers in LSS5 will remain operational. K. Cornelis added that LSS1 risks to be particularly activated since the dump of LSS1 is extensively used during the beam setting-up.

The LHCINDIV beam was sent to the LHC on Saturday evening, in advance of schedule.

The setting up of LHCINDIV (4 injections of 1 bunch) is under way. The longitudinal blow up is now ppm. Work on making the transverse emittance blow up ppm is ongoing.

On Thursday, the new BWS SW was installed. This allowed the transverse emittances of LHLCPROBE and LHCINDIV to be measured.

An interlock issue occurred in the transfer line to the LHC when the TED is out and two LHC beams are simultaneously in the SPS.

G. Rumolo asked when the scrubbing in the SPS would take place. The set up of that beam should start in the beginning of next week. The SPS scrubbing date should be indicated on the planning, once it will more clear when the LHC25 will be ready. The scrubbing should take place before the CNGS start-up.

CTF3 (D. MANGLUNKI):

For PHIN, the phase-coded beam intensity was measured to above 8nC, which is more than expected. About 90% of the physics programme could be completed.
The quantum efficiency life-time measurements still remain to be performed.

Some problems were seen on the gun of the drive beam. Access is foreseen for the 22/2.

The klystron that burnt last year is now pulsing.

The Controls problems mentioned last week are now fixed.

TI (P. SOLLANDER):

An oil leak on the transformer in BA3 needs intervention this year and requires cutting off the ventilation for 1 day minimum. Intervention in W13 was proposed but one should look in detail at the impact of cutting the ventilation (it affects also the Faraday cage air conditioning). The impact is being looked into by S. Delaval. There will probably be only short cuts of the ventilation.

F. Tarita added that the power cut will also cause an interruption of the ventilation in the electronic room of the CCC.

TI will send their requests for the next technical stop quite early.

LHC interface with injectors (M. LAMONT):

E. Métral on behalf of G. Arduini confirmed that there will be a stop of the LHC on Wednesday 23/02 at 8:00 and that they will request beam from about 13:00.

M. Lamont added that the LHCINDIV is expected to be taken in the middle of the week. The machine was cycled up to 3.5 TeV and squeezed without any particular problem.

M. Gruwé said the last bit of the DSO tests in the LHC has been completed just before the meeting, i.e. 10:00am on Tuesday 22nd February. This last bit of test consisted in checking the correct time stamps of the signals in the BIC and LBDS systems in connection with the LASS, when going from BEAM ON mode to BEAM OFF mode.

3. Schedule / Supercycle / MD planning

During the LHC stop on Wednesday 23/02 (8:00-13:00), PS will intervene on POPS (9:00 to 11:00, but no access). G. Métral mentioned that there is request for an access for kicker KFA45 between 9:00 and 11:00 that needs to be confirmed. B. Mikulec mentioned that in the PSB there is a request for an intervention on the SEM-GRID, but this would need more time and will therefore be postponed to the next technical stop. The PSB will continue the setting-up if no access will be done in the PS and except if the issue with RF would require an access. The injectors must run in the afternoon. K. Cornelis said that no access will be given to the SPS tunnel. G Bellodi said that an MD on loss studies will be done at Linac2 to understand the reason for recently measured radiation hot spots. This must be done between 9h and 11h.

The 2011 schedule (V1.3) is available at:
https://espace.cern.ch/be-dep/BEDepartmentalDocuments/BE/2011-injector-schedule_v1.3.pdf

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

Benoit Salvant (BE/ABP-ICE) will be the new FOM scientific secretary after a transition period.

5. Next meeting

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

Preliminary Agenda:

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Minutes edited by B. Salvant and S. Gilardoni