Minutes of the 7th FOM meeting held on 05.05.2009

Agenda:

1) Follow-up of the last meeting (K.Hanke)
2) Status of the machines (Supervisors)
3) Schedule (K.Hanke)
4) AOB

1. Follow-up of the last meeting

The minutes of the 6th FOM meeting were approved.

a) Status of the BWS in the PS and in the PSB: see PSB/PS report.

b) OASIS debugging: ongoing.

c) Check of PS central building temperature alarms: not yet completed. It is hoped to do the tests this week.

d) BT.BCT calibration: completed; OP should confirm if the measurement is now correct.

e) Status of FESA devices in SPS: no news.

f) Send requests for interventions for the technical stop on 25 May to the machine superintendents: see AOB.

g) Extend ISOLDE interlock to quadrupole settings and intensity: the interlock is now active for both front ends for steering, focusing and intensity; closed.

h) Beam requirements for the LHC injection line tests: the beam type needs to be confirmed in order to set up the injector chain. K.Hanke will invite a representative from the LHC to the next meeting.

i) SPS wire scanner status: see SPS report.

2. Status of the machines

Linac2 (A.LOMBARDI): RF problems starting on Friday (1 May) caused some down time. The rf tripped about 3 times per shift and the remote reset did not work. The RFQ amplitude value was lowered on Saturday (2 May) afternoon as a precaution.

On Monday (4 May) the problems were investigated and some connections checked, notably a suspicious grounding connection on tank 2. Since then the situation has improved, but still needs to be observed.

After the meeting R.Scrivens communicated the following information:

The excavation work for Linac4 will go underneath the service tunnel between Linac2 and the PSB in the next week. The work will not close off any access in Linac2, so no procedure is needed. The details will be explained by S.Maury at the next FOM.

PSB (J.TAN): Despite frequent rf trips of Linac2, the PSB has been performing well with only a few hardware and controls issues.

On Tuesday (28 April) there was no acquisition on the operation display. The piquet CO rebooted a FEC which was password protected (cs-ccr-cmw3). On the CCM console manager the button for opening the GFA editor was missing. This was due to a database editor incompatibility; solved by BE/CO/DM team. In the afternoon the power supply of BTY.BHZ301 switched spontaneously in local mode. Some pulses were sent to GPS, without consequence. To avoid such a problem, beam inhibit for ISOLDE was set when the beam is not requested. K.Hanke suggested that in addition to steering and focusing settings also the destination should be included in the ISOLDE interlock.

On Wednesday (29 April) the trajectory was very bad for ring1 of SFTPRO. BT1.BVT10 was found not to follow the CCV value. The piquet PO changed an ADC card. In the afternoon BE.SMH15L1 went down. The PO and CO piquets worked together to bring it back to operation. Over 2 hours of beam time were lost.

On Thursday (30 April) BI4.DISPR tripped and could not be restarted remotely. The operator had to go on site for a local restart of the device. 20min of beam time were lost.

On Monday (4 May) cavity BR3.C04 dropped frequently. An access to the PSB was necessary for replacing a broken RF driver. In the shadow of this beam stop, an access to Linac2 was given to fix the RF tanks problems; total down time 1H40min.

Work was done on the fast wire scanners throughout the week. The profiles are reproducible and stable. The vertical emittances are in good agreement with the SEM grids, but there are significant differences in the horizontal plane. Work is ongoing.

Beam status:

TOF has been archived and copied to EASTA (parasitic).

LHCPROBE : ready and archived.

LHC25A/B: intermediate intensities have been produced and archived.

LHCPILOT / LHCINDIV: setting-up is ongoing.

MTE: The preparation of the beams is ongoing.

ISOLDE (M.ERIKSSON): GPS: #379, ZrO, Mk5 (plasma)

Tuesday (28 April): ICR air condition stopped working; fixed by TI/CEGELEC. The PISOMOVE system on GPS stopped working; a controller card giving power to the stepping motors for the GPS extraction electrodes was found broken. A replacement card could neither be ordered nor found (manufactured 21 years ago).

On Wednesday (29 April) beam was taken to the tape station in the evening and a proton scan done.

On Thursday (30 April) losses were observed on BTY.BLM201. The reason was that BT.BVT.101 was jumping between 2 different values, a function which is needed when there are 2 consecutive pulses in the super cycle. The values were set the same and the losses disappeared.

The air conditioning needed to be adjusted by TI/CEGELEC again.

A proton beam scan was made again to verify that nothing had changed and collections for IS442/492 were done for the rest of the week.

On Monday (4 May) the scheduled target change could not be done as the controller card was broken. A replacement card could be located with Portescap/La Chaux-de-Fonds); to be delivered during Tuesday.

The target was re-heated so that IS437 (orig. HRS) can continue collections.

On Tuesday (5 May) IS390 is taking beam.

HRS: #378, UC2C, Mk5 – 30.31kV

On Tuesday (28 April) the piquet CO had to solve a communication problem with DISOPOW and POWP.

The RFQ PLC needed a reset.

Beam was delivered to COLLAPS/ISOLTRAP/REXTRAP throughout the week.

On Monday (4 May) the HRS stepping motor controller stopped working as well. If the problem with the cards cannot be solved rapidly, the upcoming physics runs are in danger.

ISOLDE users (A.HERLERT): The run was successful. The next user group is waiting now. If they can get started today or tomorrow, their run can still be maintained.

PS (R.STEERENBERG): On Tuesday (28 April) J.M.Cravero investigated the pulsing of the BSW16 elements that from time to time do pulse with the wrong values. He confirmed that nothing has changed on these equipments and that the G64 software is the same as we had at the end 2008, when they worked well. He mentioned that it might be a problem with the timing/synchronization on the MIL1553 loop. I.Kozsar also looks into the timing of the BSW16. Later in the afternoon and the late evening the BSW16-14 did not pulse at all. The source was apparently a bad contact on an electronics card, which was solved by the PS operators who went locally. It was started to do measurements with the wire scanner application, but it works badly. The wire scans and provides a profile, but the values calculated do not seems to be correct. E.Mc Crory has now put the PS optics values in, but does not show them correctly. Also the calculated kinetic energy is wrong as at 26 GeV/c he obtains something like 6.5 GeV. Work on both problems had been done and the later was corrected, but other problems remain. The application is now being checked and JIRA issues are sent to get correct follow up.

On Wednesday (29 April) at the start of the afternoon an access in the PS (in the shadow of the PSB extraction septum problem) was made in order to verify if the injection SEM grids were in the beam. It turned out that they were, but it is not 100% sure for what reason they entered. The specialists took them out using the new PLC control. Thursday morning their integrity was confirmed. The SEM grid movement system was not powered and it is believed that they moved in very slowly. The exact reason for this is not fully understood. It was agreed that the system should feature a failsafe implementation, which means that when the power is missing, the compressed air always pushed the grids out. During the same access J.Belleman solved a problem on the BPM in SS57.

On Thursday (30 April) the East Area north branch physics started successfully. However, there were difficulties to set up the T7 irradiations beam as the beam was not seen on the MTV3 for the nominal steering. Nevertheless signals were obtained from the T7 irradiations profile monitor. Setting up was stopped at 21:00 and it was agreed that M. Glaser would access the East Area Friday morning to see if there is no obstacle in the beam. The KFA71/79 spontaneously went to going on again. B. Bleus was called to have a look. He worked on the oil pump system and since then the problem disappeared.

On Friday (1 May) all beams in the East Area were stopped at 8:00 for an access by M.Glaser at 9:00. M.Glaser found the secondary emission chamber that was not in the correct position and repositioned it. This device is positioned loosely on a pile of concrete blocks and was most probably moved during the intervention for the MTVs or the quadrupole replacements.

Apparently the side of the MSC was hit, which is made of solid stainless steel. The quadrupoles F61S.QFO01 and F61S.QDE02 have a better position than the old ones as it seems that the beam moves through the centre of the quads. When they are switched off, there is no change of the beam position but only of the focusing. This was not the case last year. However, after this intervention the beam could still not be seen on the MTV003 and M.Glaser has put up some large films to spot the beam. Finally a steering could be found, but it seems that the beam is scrapped somewhere as part of the beam is missing.

On Tuesday (5 May) around midnight F61.BHZ01 was down and LASER did not notice it. Even the working set indicated that the element was working correctly, but after having opened the knob it was clear that there was a problem. Access to the PS was required. Later it was not possible to open working sets any more. M. de Gomez Faria arrived as well. Around 6:45 the control system worked again after I. Kozsar had restarted the directory services. The problem with the magnet was solved around 5:30. the cause was an electro valve that was broken and which is now open in manual mode.

R.Steerenberg noted that this year EASTB will be requested in a different configuration than last year. K.Hanke said that this should be rapidly communicated to the Booster team, as this beam has already been set up in the PSB according to last years specifications.

East Area (L.GATIGNON): The North Branch started last Tuesday (28 April) and has been nicely running since then. One quadrupole trips frequently, which is being followed up. Apart from that there were some software issues with the readout of the scintillators.

East Area Users (H.BREUKER): Users have started up smoothly.

AD (T.ERIKSSON): The cooling water was found off last Monday (27 April). No alarm was received in the CCC; to be investigated. All ring supplies are now tested and OK. The B-main coil movement measurements finished last Friday (1 May), one magnet (out of 24) shows significantly more movement than others. More measurements on this unit are to be done this week and improved shimming is hoped to cure the situation.

AD target area: A damaged guide/support for target z-position movement was found. Probably this happened 1 year ago when manipulating the target. It was possible to adjust it back to somewhere near original shape with specially made tool. Low dose levels were taken thanks to a quick intervention.

The target shows a small water leak. It was left over the weekend; probably one has to fabricate new thicker joints this week. To be continued.

Much equipment was not yet tested due to target area problems (e.g. new horn pulser electronics/interlocks, xfer line magnets etc. It might just about be possible to stay on schedule – this will be confirmed by the end of this week.

AD users (H.BREUKER): The users have put together a schedule by now. S.Hutchins and D.Chapuis are taking care of the safety chain tests.

SPS (E.METRAL): As foreseen, last Monday (27 April) the vacuum in LSS2 was broken once again in order to repair the ZS5. In the mean time the geometers re-aligned the SPS machine (4 quads in H and 4 quads in V have been moved). After the access, the orbit at top energy was re-measured and it was smaller than ~ 1.5 mm rms in both planes (before it was ~ 2-2.5 mm).

During the week some work has been done to try and decouple the different cycles as much as possible, in particular to have the same behaviour on the 1st cycle (SFTLONG) when the last cycle of the supercycle is either LHCFAST or CNGS.

DSO tests for the NA took place until Thursday (30 April). The situation with SFTPRO was quite good (beam up to 400 GeV/c with ~ 91% efficiency, for ~ 3E12 p/p) and the extraction was set up during the night from Thursday (30 April) to Friday (1 May).

During the week, the beam was also accelerated up to 400 GeV/c on CNGS, the extraction kickers were pulsed on both LHCFAST and CNGS cycles and some checks were made on the calibration of the BWS51995 with old and new server (in both cases, the same value was measured).

Finally during the (long) week-end the TT20 transfer line was started to be adjusted and the beam was seen on the T2 target. This work will continue during the coming week (to be ready to send beam to physics on Monday 11 May) and several issues (such as polarities of some magnets in TT20 etc.) will be followed up.

Some ZS tests will take place on Wednesday (6 May) from 9h to 13h.

E.Metral asked when they could have the LHCPROBE bunch ready for the SPS. The beam is ready in the PSB, and will be injected and prepared in the PS during this week.

CNGS: Waiting for official news when they will start up.

SPS North Area (L.GATIGNON): They might take low intensity beam on target this week.

North Area users (H.BREUKER): A user group on H2 is not ready, they will not start on 11 May but on 18 May. All other users are ready.

LINAC3: Linac3 is in shutdown; Linac3 matters will be followed up regularly during the run.

LEIR: LEIR is in shutdown; LEIR matters will be followed up regularly during the run.

CTF3 (F.TECKER): CTF had a smooth week. A broken power supply, for which no spare was available, caused half a day of down time.

The thyratron of a klystron needed to be changed twice.

The injector was set up for long beam pulses and the energy spread was measured. First beam could be sent through the delay loop.

During the weekend PETS operation was done, surveyed by the PS operators.

TI (S.AMOMO): Quiet week, apart from a couple of cooling problems in BA1.

As a follow up of cases reported where TI got no alarms (see AD), they are in the process of getting new alarms to the CCC.

3. Schedule / Supercycle / MD planning

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

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

The date indicated for the North Area physics start is wrong on schedule version 3.4. It should be one week earlier, on May 11th. The dates for CNGS start will be adjusted once they are officially known.

The next injector technical stop is scheduled for 25 May.

4. AOB

K.Hanke asked everybody to send requests for interventions during the technical stop on 25 May to the corresponding machine superintendent. A preliminary list of interventions will be presented by V.Chohan at the next meeting (12 May). The final list will be confirmed at the FOM on 19 May.

K.Hanke will invite a representative of the LHC to the next FOM to confirm which beam type will be requested from the injectors during the LHC injection line tests.

A.Bland announced an IT network intervention which will cause “instabilities” of the control system. This intervention was scheduled for 25 May (during the technical stop).

5. Next meeting

The next meeting will be held on Tuesday, May 12th at 10:00 in 874-1-011.

Preliminary Agenda:

- Follow-up of the last meeting
- Status of the machines
- Schedule
- Special items:
  - Preliminary list of activities during technical stop (V.Chohan)
  - News on Linac4 civil engineering work and possible impact on operation (S.Maury)

Minutes edited by K.Hanke