Minutes of the 11th FOM meeting held on 02.06.2009

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 10th FOM meeting were approved.

Open actions from last FOM:

a) the problem with the FESA classes of the BT and RF equipment of the SPS has been solved;

b) the BCT of the PSB has been calibrated. The electronics is still the old one.

In view of the TI tests during the next weekend, the machine supervisors should check that the required LHC beams (LHCPROBE and LHC25 with reduced intensity) are within the requested specifications.

https://ab-mgt-md-users.web.cern.ch/ab-mgt-md-users/2009/TI8testsWeekend23.htm

2. Status of the machines

Linac2 (R. SCRIVENS):

Linac2 had a quiet week, with only minor RF faults on Friday. The civil work on Linac4 is progressing, with a half of the transfer line gallery excavation completed. The Linac2 wall moved by only 0.5 mm compared to its position in April. The lift of the Linac2 has to be replaced, since it is quite old and it does not comply with the new safety rules. The work is foreseen for October, but during that period it will not be possible to transport to the gallery large and heavy instruments or Linac parts. This might be a problem if a large Linac failure would occur. In total, the intervention will take 8 weeks. The works might be postponed to February. K.Hanke will bring up the matter at the IEFC.

PSB (Y. TAN):

On Tuesday afternoon, BTP.MBL10 triggered for the EAST beam, which is unusual seen the low intensity delivered for this user. The reason was the remanent radiation from the previous user (SFTPRO). A reprogramming of the supercycle solved the problem. On Wednesday afternoon the aqn value of BE.SMH15L1 was 10 A lower than the CCV. The piquet PO solved the problem. During the night, a jitter of half of the revolution frequency appeared on the RF for the ISOLDE beams. Since there were no users, the problem was investigated the morning afterwards by the RF expert. At that moment the jitter had disappeared without any apparent reason. On Friday night, BT.BHZ10 and BTY.BHZ301 tripped without the possibility to reset them, not even locally. A pulse repeater was found broken, and the safety interlock was

preventing the power supplies from being reset. On Saturday afternoon, all the control system suddenly froze. No MTG events were sent and, while all the systems were blocked with a large fraction of DSCs not working, LASER was showing only 3 error messages. The operator switched the MTG from MTGA to MTGB and later vice versa. The problem disappeared but the source has not been understood. On Monday afternoon, the MPS tripped due to a missing Btrain generation. The operator rebooted the rack of the Btrain generation and the problem disappeared. On Monday night, BTY.BHZ301 was pulsing at the right value but an alarm in LASER appeared mentioning a too low current. The error triggered the magnet interlock and cut the RF. To solve the problem, the magnet interlock was disconnected. The same problem appeared on the BTP.BHZ10. EPC is working to solve these problems.

The beam status is the following: after the recovery of the PSB from the injection septum failure, the only beams which could be checked are LHCINDIV and LHCPROBE. This is due to the fact that the installation of the VELO experiment puts constraints on the use of the dump. K. Hanke added that VELO will take data next week, and then one will resume the normal use of the Booster dump.

The vacuum in the ring is improving.

K. Hanke asked if the controls problem has been understood. C.-H. Sicard replied that investigations are ongoing, and so far a SW problem can be excluded. One of the suspects is that an external access blocked both MTG machines. K. Hanke asked why there were no alarms on LASER. C.-H. Sicard replied that this could be due to the absence of the central timing. LASER experts are following up this issue.

ISOLDE (P. FERNIER):

GPS was running without the GLM line until later in the week. The zone has been opened to repair the separator. It was found that the interlock on the Faraday did not work, causing a collision of the Faraday cup with the electrodes of the front-end. Beam could be delivered late in the week, but the low yield of the target was insufficient to complete the physics program.

The target on HRS was performing well. Unfortunately, due to a vacuum problem on the REX 9-gap, beam could not be delivered to the experiments. EBIS and REXTRAP had already been set up. However the problem with the 9-gap cavity could not be solved in time and the REX run had to be cancelled. The DSCISOPOW had to be rebooted many times. This DSC controls the target power converters, so a particular procedure has to be followed every time to avoid damaging the targets.

K. Hanke suggested that an interlock be implemented to limit the maximum RF power on the 9-gap cavity to avoid the same problem of last week. K. Hanke asked about the details of the REX vacuum problem. The original silver seal of the REX 9-gap cavity was produced by cold welding. When a similar problem appeared three years ago, the seal was replaced by another produced by brazing. Unfortunately the same procedure applied this time did not produce good seals so far. Seals will be produced by cold welding as soon as possible, while as an immediate action the workshop will produce brazed seals.

ISOLDE users (A. HERLERT):

Unfortunately none of the users could take data due to the problems with both front-ends.

PS (R. STEERENBERG):

The EASTB beam was delivered after the realignment of the line in the East Area.

The alignment was very effective. For same cycles, one of the bumpers of the extraction bump 16 was found pulsing with a wrong value. The problem was solved by changing the CPU of the control system for a faster one. Investigations are ongoing since the problem is generated by interrupts produced faster than in the past, and the same problem can appear for other equipments. The nTOF beam setting up is continuing, with an intensity of up to 700e10 ppp being delivered. The HW request was not working correctly, whereas the SW was still declared as MERIT request. The BCT in the FTN were not working correctly. The BI expert put in place a temporary solution. On Wednesday morning, septum SMH57 was tripping due to too large RMS current. The slow extraction spill was optimised with its length increased, which caused a too high septum RMS current. An optimum to satisfy the physics request and the septum had been found. Later in the week, nTOF restarted to take beam. The RP survey showed a too large radiation level near the water station. This is due to the fact that the final radiation shielding is not yet installed. Until then, the intensity is limited to 500e10 ppp every 28 bp. The parasitic nTOF beam on the EASTA cycle has been prepared. A comparator has been put in place to avoid sending erratically the nTOF beam to the EAST area. On Friday night, one of the quadrupoles in TT2 tripped a few times. After a series of resets, the quadrupole did not trip any more. On Saturday, the BCT of nTOF stopped working. BI tried to find a temporary solution. Furthermore, the extraction pre-pulse was not produced regularly. Investigations are ongoing to understand both problems. The PS suffered from the same problem as the PSB from the MTG. The last problem of the week was related to a bad pulsing of QKE16, which is still under investigation.

East Area (L. GATIGNON):

DIRAC is satisfied with the delivered beam, as well as the T9 and T10 users. The CLOUD experiment chamber has been delivered. Everything should be ready to take data by the end of June.

East Area Users (H. BREUKER):

See L. Gatignon report.

AD (P. BELOCHITSKII):

The setting-up of AD is ongoing. On Tuesday, many resets have to be done for one of the RF cavities. The piquet had to change the water cooling pressure of one of the pre-drivers. On Wednesday, large losses appeared for a not clear reason. Finally, this was due to a bad erratic voltage of the cathode of the electron cooler. The EPC piquet solved the problem. On Thursday, one of the MWS in the experimental line was fixed. Sometimes the Btrain was not working correctly on one plateau. Transformer TRA7049, used by the experiments to normalise their data, showed problems of saturation. The transformer cannot measure intensities above 2.2 10^7 pbar. So far, the setting up was within the schedule. The last tests will be done for the experimental lines, to be ready for the physics run starting next Monday. More studies will be done on the production beam side to optimise the pbar yield.AD suffered from the same problem with the MTG as the PS and PSB.

AD users (H. BREUKER):

The first user meeting will take place on Tuesday afternoon.

NTOF: No report.

SPS (E. METRAL):

Most of the week was taken by the setting up of the CNGS beam and the preparation of the LHCFAST cycle for the TI tests. Extraction tests has been done down to TT40 and TT60. Emittances have been measured in the lines, showing to be about a factor of 2 larger than the specifications. Unfortunately, it was not possible to measure the emittances in the ring since the BWS were not working. K. Hanke added that the BWSs are fundamental to qualify the LHC beams, and now that the LHC restart is approaching, these instruments are becoming more and more crucial.

E. Metral reported that the setting up of the transverse dampers is not finished yet. In particular, one access is required to fix one of the kickers. On Monday, it turned out that one quartz of the UA9 experiment was in a wrong position, introducing an aperture restriction. The final fix will be done during the last day of the next long MD block. The LHCFAST cycle has been adapted to have the same field decrease as the CNGS. This was done in the framework of making the SPS ppm. Losses were observed on the LHCFAST cycle at 150 ms. This was due to the fact that the beam control was using a wrong table stored in the Playback mode system. On Thursday, an access was done to fix the kicker of the tune measurement. During the weekend, problem with the horizontal transverse damper limited the maximum intensity on the CNGS. H. Vincke mentioned that an access to the building 898 to change the air filters will be needed this week. This will be synchronised with the CNGS stop (see below).

P. Sollander asked about the cable failure in BA5. The failure was probably on the head of an 18 kV cable. EDF has been contacted for the intervention. F. Tarita asked if there is still a reserve for operating the machine. The network can be reconfigured to bypass the problem.

CNGS (E. GSCHWENDTNER):

The first CNGS beam was delivered on Wednesday last week. The first beam tuning was done with only 1 cycle per supercycle. Then, from Saturday on, 3 cycles were delivered. Up to now, 1.2 10^13 per extraction are sent to the target. A problem with the temperature probes of the windows of the He tube might require an access. The probes are working, but the PLC machine cannot be pinged. OPERA communicated that they are happy with the beam, with already a total of 114 events recorded of which 25 are in the bricks.

SPS North Area (L. GATIGNON):

On Monday the T4 target received a spurious veto from the access system. This was finally resolved by 23:00 after the intervention of several piquets and experts (access, target specialist). As a result there was essentially no beam for H6, H8 and 3x too much beam for P42+K12.

On H2, the users changed on Sunday.

The NA62 tests of RICH prototype have started on schedule and with good beam conditions. The experiment is suffering from intermittent trips of BA82 cooling, affecting all K12 rectifiers as well as the cooling of the T10 target. The problem is under investigation.

There has been good running for COMPASS with hadron beams. After the tuning of a new hadron beam optics, it turned out that an increase of intensity on T6 might be required.

North Area users (H. BREUKER):

See L. Gatignon report.

LINAC3 (R. Scrivens):

The shutdown activities are continuing on schedule.

LEIR: no report.LEIR is in shutdown; LEIR matters will be followed up regularly during the run.

CTF3 (D. MANGLUNKI):

The week was dedicated to Delay Loop optimisation and response matrix measurements in TL2.

On Wednesday, a low Dp/p beam was designed to improve the measurements as it is suspected that the low energy tail pollutes them.

The scraper in the first chicane was used to get rid of the low energy tail. By Wednesday evening, full transmission through the delay loop was obtained.

Unfortunately on Friday MKS03 tripped again with apparently the same fault as in week 16. This required transport of the oil tank to the end of the gallery in order to open it and change the (expectedly) damaged diodes in the rectifier bridge. The intervention started this morning at 9:00.

At 14:00 on Friday, CV inspected the cooling water towers, as the blades of the fans had been found damaged on similar towers. Fortunately in CTF they are in good shape.

At 17:00 CLEX was closed again to allow CALIFES conditioning.

TI (P. SOLLANDER):

Two interventions are planned:

1) A database upgrade is foreseen for the 9th of June between 6:00 to 9:00 AM; this will affect the access system.

2) Tests of the remote SPS tunnel lightening will be done during the last day of the long MD block when the SPS will be in access mode for the UA9 experiment.

3. Schedule / Supercycle / MD planning

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

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

TI8 transfer line tests will take place during the weekend of 6/7 June.

The supervisors are invited to check that the required beams are within the specifications for the tests.

Two DNS server interventions are foreseen for the 18th of June and the 10th of August.

4. AOB

F. Tarita mentioned that the intervention to the 488 kV transformer started. Solutions to divert possible extra load have been found. So far, no problems are expected for June, whereas for July, when the LHC cryogenics will restart, it might be necessary to reduce the consumption by turning off test areas.

5. Next meeting

The next meeting will be held on Tuesday, June 9th at 10:00 in 874-1-011.

Preliminary Agenda:

- → Follow-up of the last meeting
- → Status of the machines
- → Schedule
- → BI review (U. Raich)
- → report on TI8 tests (t.b.c)
- → AOB

Minutes edited by S. Gilardoni