Minutes of the 20th FOM meeting held on 14.06.2011

Agenda:

1) Follow-up of the last meeting (B. Mikulec)
2) Status of the machines (Supervisors)
3) Schedule (B. Mikulec)
4) AOB
5) Next agenda

1 Follow-up of the last meeting

The minutes of the 19th FOM meeting were approved.

Follow-up from the last FOM:

Pending actions:

Technical stop

Send list of activities and persons needing access to the superintendant. Action not closed.

Trips of booster cavities and steerers due to water interlocks

No news. S. Deleval will follow this up. Action not closed.

Clarify responsibility for the PS splitter at the IEFC.

No news. Action not closed.

Problems with POPS (3 actions)

B. Mikulec asked R. Steerenberg for news on the POPS recommissioning: The new POPS capacitors are installed, and tests on a test load are ongoing. The full test will take place with the PS magnets, but not before mid-July. Improvements are also expected concerning EM compatibility and hopefully on the Bdot stability. The date of the recommissioning is also related to the available support for POPS. Action not closed.

2 Status of the machines

LHC interface with injectors (J. Uythoven):

The LHC is running nicely with 1092 bunches (244-bunch injection), and the experiments profited from the small transverse emittances provided by the injectors. The average intensity is 1.2E11 protons per bunch. An intervention from the RF specialists is required before stepping up in the number of bunches. Although things have improved with conditioning, 1.2E11 is still the limit in average bunch intensity. Otherwise it has been a smooth run for LHC.

LINAC2 (R. Scrivens):

On Wednesday, following a problem on the demineralised water pump, the spare pump was put into operation. The pump will be fixed before going back in service. Otherwise a smooth week.

LINAC3 (R. Scrivens):

Linac3 start-up is ongoing. The ion source will be started today.

PSB (A. Findlay):

On Tuesday at 14H25 the beam was cut for a PS access, and RP benefited from this stop to access the PSB to check some equipment. Beam was back at 15H45.

A problem with the Q-Strips was found to be related to a database problem requiring the INCA piquet to intervene.

Wednesday: The PiPO was called to fix the multipoles BRx.QSKHO, as they were no longer pulsing. After modifying the cooling system for these elements, they were back in service after 2 hours.

Friday: It was noted that there was no more reliable information from the BI pick-ups. This is being followed up with BI.

A new wire scanner measurement campaign was launched, and the operators were asked to perform the requested measurements during the weekend.

ISOLDE (E. Siesling):

It was a busy week with GPS and HRS running in parallel with an exceptional total max proton current from PSB of 2.5uA (1.5uA to HRS, rest GPS).
There was a very good collaboration between the different users allowing each other max intensity when needed and with PSB for adapting the proton beams accordingly time after time.

HRS has been running with target #447 UC until last Tuesday-afternoon for REX and the Miniball experiment then ISOLTRAP took over until Friday-morning. RILIS laser ionisation for Pb has been running successfully.
Issues:
- Due to a known problem of HV breakdowns in the ISCOOL RFQ we could not run any higher than 30kV which was limiting for ISOLTRAP. This problem will be addressed this week (as of Tuesday 14-06) since no beam from HRS has been scheduled this week.
- As of Thursday the RFQ high voltage started fluctuating by several 100 volts. This is most likely related to the breakdown problem. This could be corrected by ramping the HT down and up again to go back to a stable situation every time the problem occured.

GPS was running with target #443 Ta for collections in GLM as well as for the COLLAPS and ISOLTRAP experiments. RILIS laser ionisation for Dy was running successfully as of Monday.
Issues:
- The target heating dropped 3 times in the beginning of the run due to severe vacuum pressure increase in the GPS10 (frontend) sector. There were also some difficulties with the HT but we could maintain 50 kV. The vacuum bursts seemed to be caused by the target. As of Thursday things got stable.
- A radiation alarm in the hall on PAXY04 (merging switchyard) was set off while running with mass 140 and 141. This was most likely caused by heavier isotopes being lost in the switchyard. With the slits inserted in the GPS separator the situation came back to normal.
- Saturday-morning the protons were gone for a few hours due to the PS access. Meanwhile the target cooling water at ISOLDE stopped around 10h30 and went to emergency mode (reservoir),

stopping the pump station and all target heating. Thanks to the CV/water piquet (Cegelec) and some help from the users the situation could be corrected. There are doubts on the correct functioning of the expansion vessel in the water circuit. Things will be addressed and followed up. The water flow is closely monitored but fine since Saturday.

ISOLDE users:

HRS took protons from Tuesday to Friday in parallel with GPS for Pb beams to ISOLTRAP. The users would like to thank the PSB team for their cooperation and flexibility in delivering a high 2-2.5uA of protons.

GPS: There was a very successful run for solid state physics. A biomedical experiment suffered from problems with shipping of samples, but some mice irradiations could be done. Over the weekend COLLAPS aimed at laser spectroscopy on 140Pr, but the yield was too low. On Monday ISOLDE delivered for the first time laser-ionised radioactive Dy beam using a newly developed laser ionization scheme. ISOLTRAP attempted to measure masses of two Dy isotopes, but the yield was nevertheless too low and contamination too high.

PS (G. Metral):

On Tuesday there was a problem with the tuner of the 40MHz cavity in section 77.
On Wednesday there was a problem with the function generator which controls the voltage of a 20 MHz cavity for the LHC beam.
There are no more discrepancies in the vertical emittances for Booster, PS and SPS machines. Beta-H was used instead of beta-V in the application program. There is a campaign of trajectory measurements ongoing.

A failure of wire-scanner 65 triggered a vacuum fault on Saturday. Thanks to the quick intervention of BI, Vacuum and RP. The machine could be restarted in a record time.
The beam was back after only 12 hours.

We still have difficulties to measure trajectories and orbits on LOW intensity and on MD beams.

East Area (L. Gatignon):

IRRAD, DIRAC, T9 (cryoBLM – BE/BI) and T10 (ALICE/TOF) are running, there are no users in T11.

Stable conditions until Friday early evening, when suddenly all beam stoppers moved in, although the areas were in CLOSED state. The ZORA piquet diagnosed that a compressed air valve for the DIRAC beam stopper tripped a low voltage supply, which in turn caused also all other beam stoppers to close. The other beam stoppers could be opened after a 2 hours stop. The DIRAC valve needed an intervention by the EN-STI team and could be put back in operation after 4 hours.

In the shadow of the wire-scanner vacuum intervention on Saturday, a water leak was detected and provisionally fixed by the magnet piquet on F61.QDE02.

On Monday morning, ~1.5 hours lost for IRRAD and DIRAC due to F61S.QFO01 trip (fan broken), fixed by the piquet First Line.

CLOUD will start using the T11 beam early this week. The magnets have been started, and all is ready for beam.

East Area Users (H. Breuker)

DIRAC is running.

On the T9 line LHC cryogenic beam loss monitors are to be tested.

CLOUD is about to start up.

TOF (H. Breuker):

TOF is running fine and is still above the predicted proton delivery curve.

AD (S. Pasinelli):

A quiet week for AD. The ATRAP line had to be retuned during the night, the reason for the change in beam condition is unclear.

The HT transformer for the C1026 cavity was changed.

Between Thursday and Friday the extraction decreased by 10%. The AD extraction kicker had to be reset.

Despite the interruption due to the vacuum incident in the PS, more than 3.2E7 antiprotons per spill could be extracted.

AD Users (H. Breuker):

Due to the incident on Saturday ATRAP lost some hours of beam time.

SPS (D. Manglunki):

The SPS has kept delivering beam to the LHC and to CNGS; North Area operation has also started.

During the week, several stops (~6 hours in total) had to be programmed for EN/EL and EDF to search for a fault on the 18kV cable; on Friday it was eventually found between the CCC and BA3; the intervention should start by digging this afternoon. They will need another 2 or 3 stops of ~1 hour to confirm the fault and fix it by Friday evening.

Another cause of SPS stops were investigations on the mains power supplies (~15 hours):

- SMQD started tripping with the SFTLONG cycle. It first looked like a cooling problem until the thermo-contact was found to be too sensitive and was changed.
- SMD13 is still down, but TE/EPC is working on it offline.
- SQMS is also inoperative and needs an SPS machine stop of half a day, preferably with a 24 hour notice.

Hence for the moment the SPS is running without spares on its main power supplies.

The beam permit for the North Area was eventually signed on Thursday morning; the setting-up only started in the evening because of the investigations on the power supplies. The beam had been stopped for the whole afternoon, and when it came back there were losses on the CNGS and SFTLONG cycles. As there was no alarm, it took until the next morning to find out that a screen (BOSTEP.BA1.BTV11860) had been inserted at the end of TT10 by a BI intervention, blowing up the beam. B. Mikulec asked why there was no alarm. The reply was that the reference for this screen was (falsely) set to ‘IN’.

On Friday chain 11 tripped when it seemed as if a user had opened a PPX door although the condition for his zone was "beam on". This is a feature of the new system, and needs the intervention

of the access piquet to reset beam conditions. After several hours of stop due to mains and access system, setting up for the North Area resumed and was over just before midnight.

On Saturday, a vacuum leak on the PS machine stopped all beams for ~12 hours. TRX6 tripped, but the repair by the piquet was done in the shadow of the PS vacuum problem. Apart from a problem on MBE2103, the rest of the long Whitsun week-end was pretty quiet.

In spite of all this, the beam availability was above 75%, and CNGS reached 2.4E19 protons on target.

North Area (L. Gatignon)

Most of Tuesday was used for testing the link between the RP monitors inside the beam zones with the access system. All was validated in the evening.

Finally the beam permit for most of the North Area beam lines was signed on Thursday morning. The first beam that was set up was the M2 muon beam for COMPASS, once the experiment was ready to close it on Thursday afternoon. Some 2 hours were lost due to a water fault on one of the Q16 quadrupoles in the BA81 zone.

On Friday almost 2 hours were lost due to a North Area access problem. The origin of the problem was a mechanical failure on a PPX, which was seen as a risk of intrusion by the system (like a forced door). It was realised that in the new system this is latched and that the access expert must be called to do the reset. This is on the safe side, but may have a significant impact on the North Area operation.

North Area users (H. Breuker)

H2: an NA61 test run was cancelled; a CMS gas detector is running in parallel with the CALICE project
H4: the beam permit is not signed for IRRAD.
H6: will start today.
H8: ATLAS detector is going fine.

CNGS (no representative)

CNGS is running fine.

CTF3 (no representative):

No news from CTF3.

TI (P. Sollander):

No problem to report. A quiet week.

3 Schedule / Supercycle / MD planning

Next week there will be a first report on the planned activities for the upcoming technical stop.

The 2011 schedule (V3.0) is available at:
https://espace.cern.ch/be-dep/BEDepartmentalDocuments/BE/injector_schedule.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

The planning for the upcoming MD is available at

https://ab-mgt-md-users.web.cern.ch/ab-mgt-md-users/2011/

4 AOB

5 Next meeting

The next meeting will be held on Tuesday, 21th June at 10:00 in 874-1-011.

Preliminary Agenda:

1) Follow-up of the last meeting
2) Status of the machines
3) Draft list of technical stop activities (machine superintendents)
4) Schedule
5) AOB
6) Next agenda

Minutes edited by D. Voulot