End Week 23 (June 13th 2011) – Status of Accelerators

AD (Bruno Dupuy)

it was a very quiet week.

- Tuesday 2:45 to 4:00 intervention to adjust the ATRAP's extraction line.

- From Thursday to Friday 8:00 10:54 RF specialists intervention following a problem on a 30kV transformer, cavity C10-26. The loss of extraction was about 10 percent.

- Friday, several RESET have been done by CCC crew, extraction kicker DE.KFA35 +50, and on the Stochastic-Cooling system of horizontal movement DR.UHM3107 pick-up.

Except during the PS vacuum leak on the Wire-Scanner, the AD beam was greater than 3.2E7 anti-protons extracted.

Summary:

Tue07 Steering ALPHA (2:45 to 4:00)

Thu09 30KV transformer C10-26 Off.

Fri10 Restart C10-26, and some reset, DR.UHM3107, DE.KFA35+50 (CCC team)

Booster (Alan Findlay)

A nice quiet week at the PSB, with nothing but the usual resets and adjustments to report.

Time was spent training the new operators, and proved to be time well spent.

The 2nd wire scanner measurement campaign was started on Friday by the ops crew, but the results haven't yet been collated and analyzed.

Otherwise, much to my delight, the long weekend was just that.

ISOLDE (Erwin Siesling)

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).

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. Since friday in cooldown period for the upcoming target change this week. RILIS laser for Pb ionisation has been running successfully.

Issues:

- Due to known problems of sparks in the ISCOOL RFQ we could not run any higher than 30kV which was limiting Isoltrap (they would have run at 50kV otherwise). They were able to run anyway. The RFQ spark problems come from the 2nd extraction plate wiring inside which will be repaired 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 also related to the sparks inside. By ramping the HT down and up again we could get it stable again every time it happened and managed to stumble to the end of the HRS run.

- On tuesday-night some elements in the HRS10 sector went down (probably vacuum glitch) which wasn't noticed by the users and then caused them troubles with setting up stable beam.

GPS:

Running with target #443 Ta for collections in GLM as well as for the COLLAPS and ISOLTRAP experiments. RILIS laser ionisation for Dy running successfully as of today (monday).

P-scan done on tuesday, yield tests friday-afternoon by Thierry.

Issues:

- The target heating dropped 3 times in the beginning of the run due to severe vacuum pressure increase in the GPS10 (frontend) sector. Also difficulties with HT but we could maintain 50kV. Vacuum increase seemed to have come from the target. The vac gauge was excluded after swapping to the second one (thanks Giovanna). As of thursday things got stable.

- Radiation alarm in the hall: at masses 140 and 141 the PAXY04 at the merging switchyard would set off. With the slits in in the GPS separator this was reduced to normal level. Was probably caused by slightly higher mass isobars (to be discussed at the tech meeting).

- saturday-morning the protons went gone a few hours due to several access' at PS and in the meantime...

around 10h30 the target cooling water stopped and went to emergency mode emptying the reservoir, stopping the pump station and stopping all target heating. We filled the reservoir by hand (buckets.. thanks for the help of the users) and got the pump station going again with help of the CV/water piquet (Cegelec: Didier Romain & Bertrand Barruel). There are doubts on the correct functioning of the expansion vessel in the water circuit. Discussed with Nicolas Roget (CV) who called me back from his holiday address. Things will be addressed and followed up. Water flow closely surveyed but fine since saturday.

General business:

- Last week Jan Schipper used the oportunity to verify the modulation of the extraction high voltages HT1 (GPS) and HT2 (HRS). The modulation of HT2 was found 37us too late, after proton impact. Timing for HT2 (BTYX.SEJISOHRS) has been adjusted (220 BAX.TRF) and now modulation is correct again. HT1 was found to be ok.

- The Isolde HT room is since 2011 part of the Isolde security chain, entering will drop the BTY.BVT101 abruptly which can brake the pulsing power-supply (as demontrated last week on thurday-evening after we had entered the HT room for the HT modulation tests that afternoon). PSB should be informed to set BTY.BVT101 to standby or off before taking the key - the message will be passed to my fellow Isolde machine supervisors.

PS (Gabriel Metral)

Une campagne de mesure était en cours cette semaine pour les fils volants du PS.

Les différences sur les mesures d'emittances verticales sont maintenant comprises (le beta H était utilise par l'application au lieu du beta V).

La campagne de mesure n'a pas pu être finie, le fil 65V a eu une fuite sur un soufflet ce WE.

La réparation du fil 65 a été la panne principale de la semaine. Malgré ce long WE, cette réparation n'a générée que 12H de panne (merci bien aux différentes personnes qui sont intervenu efficacement)

Les spécialistes puissances RF ont encore été appelés plusieurs fois cette semaine, un merci particulier à Matthias qu'on dérange régulièrement.

Une instabilité sur le palier basse énergie limite l'intensité sur le User TOF. (on reste cependant au dessus de 800e10 accélère dans la machine PS)

Toujours des difficultés à faire des mesures de trajectoires et d'orbites sur certains faisceaux (LHCPROBE, MTE, ..)

Quelques difficultés a programmer les cycles EASTB dans le SC (le septum 57 déclenche si on programme 3 cyles EASTB consécutifs)

SPS (Django 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, to be confirmed at the FOM.

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

- SMQD started tripping with the SFTLONG cycle; It first first looked like a cooling problem until the thermocontact 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 but 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 a screen (BOSTEP.BA1.BTV11860) had been inserted at the end of TT10 by an intervention by BI, blowing up the beam.

On Friday chain 11 tripped when a user 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 the 2E19 protons on target watermark.

LHC

Continued running at 1092 bunches per beam.

http://lhc-commissioning.web.cern.ch/lhc-commissioning/

TI (Peter Sollander)

Please follow link below for full breakdown of week. (Busy Week)

http://wikis/display/TIOP/2011/05/10/TI+summary+week+19%2C+2011