

End Week 20 (May 20th 2012) – Status of Accelerators

TI (Peter Sollander)

Please find the TI summary in the usual place,

<http://wikis/display/TIOP/2012/05/21/TI+summary%2C+week+20+2012>

day	events
Wednesday, May 16	<ul style="list-style-type: none">• 09:08 -- Cooling water problem stops the PS for 22 minutes.• 12:07 -- Beam Imminent Warning problem coming out of an access for RF.• 16:06 -- BA4 cooling problem stops the SPS for two good hours. It was the power supply for part of the controls on site.
Thursday, May 17	<ul style="list-style-type: none">• 16:54 -- POPS cooling problem brings down the PS for almost three hours (back 17:41).
Friday, May 18	<ul style="list-style-type: none">• 13:56 -- SPS stopped for intervention on North Area cooling. Almost two hours lost.
Sunday, May 20	<ul style="list-style-type: none">• 05:35 -- Electrical glitch on 400kV network. PSB, SPS and LHC trip. LHC mode FLAT TOP at 14:30• 14:31 -- Another electrical glitch on 400kV network. PSB, SPS and LHC trip again. LHC stable beams again at 18:15

AD (Joao Carlos Oliveira)

All in all OK

Monday

AD MD

Tuesday night we had a problem with the vacuum valve DE.VVF7068 (AD extraction line)

This vacuum valve was closed because a gauge was giving an interlock.

The gauge is giving a bad information. Vacuum people bypassed this interlock.

The gauge will be replaced on the next technical stop.

-We had to reboot the front-end cfv-193-bgem2 several times during the week. Last **Saturday**, I had to call the PICO.

We realized that when the frontend is down the beam for AEGIS was killed. The GEM monitors were inside the beam.

Tomorrow, Monday, CO will try to fix the problem.

ISOLDE (Erwin Siesling)

HRS:

Target changed last week for the #475 YO. In standby to save it until needed. Setting-up will be done as of today and p-scan foreseen for tomorrow afternoon.

GPS:

Running with #474 UC target.

Two experiments in parallel, ISOLTRAP and Windmill experiment at LA1.

RILIS lasers running for Au (gold) ionisation.

ISOLTRAP has difficulties seeing the neutron rich Au. 201 has a Ta contaminant and they cannot see the gold, at 202 there is too little. We have re-tuned the machine and RILIS has been scanning their frequency but the amount of Ta is too high to see the Au.

Continuing this morning on the neutron poor Au elements.

As of this afternoon collections in GLM and GHM will take over at GPS and setting up will be done for HRS.

No major technical problems.

At the PSB side re-tuning of the settings for the main bender BTY.BVT101 was done (ISO-first and ISO-following cycles). We had losses in the line which seem to have been solved now.

GPS heating is in manual which requires access to the HT room each time heating needs changing. This is due to a blocked PLC last week. Controls is ok now but we did not want to take the risk to switch back to remote. Will be done at next target change.

Booster (Bettina Mikulec)

During the week the PSB was running smoothly with only few minor hiccups.

On Friday ISOLDE asked for maximum intensity, when some troubles with steering showed up. After several checks it seems that the two 'triple-ppm' bending power supplies weren't set up correctly.

Sunday early morning a glitch on the mains brought us down for ~10 minutes. The electrical network problems around 2:30pm had more severe effects, leading to ~2h downtime.

Also on Sunday around lunchtime there were troubles with the ISOLDE watchdog, because one of the transformers used for the calculation of the beam transmission showed zero for this user. The specialists investigated during quite some time, but in the end a ppm copy of the transformer settings from another user to the ISOLDE user resolved the situation. The explanation though is not clear, and this should be followed up with the specialists and the INCA team.

At the same time we had a radiation alarm on PAXS23 (Linac2), which was traced back to the high number of ISOLDE cycles in the supercycle.

Since ~1 week we have no more acquisitions from the pickups in the LT and LTB transfer lines. Our BI colleagues will follow this up.

A full inventory of analog signal quality of the PSB pickups has been provided by our operators (samplers and OASIS signals). I have organized weekly meetings with the BI specialists with the aim to go through this inventory and improve the signal quality. The OASIS team will be involved in this discussion at a later point.

PS (Gabriel Metral)

Retour au setting d'avant arrêt technique pour extraction des faisceaux en 16 [le PR.DHZ15 avait été remplacé par le PR.DHZ03]. Le LHC retrouve de bonnes emittances.

Début de cette semaine, l'alimentation spare 'PR.DHZSP-OC' va être connectée sur le PR.DHZ03 (Ray et Simon ont fait le nécessaire pour que 2 câbles soient rapidement installés pour permettre cette connexion)

On pourra alors mettre en simultané les 2 modes d'extractions pour faire des mesures comparatives, sans perturber les faisceaux LHC.

Quelques souci avec les stations de refroidissement (1/2h d'arrêt mercredi et 2 H d'arrêt jeudi)

Jeudi, en fin de journée, le câble HT du septum électrostatique 23 (éjection des faisceaux EAST) a dû être changé (3heures d'arrêt des faisceau EAST et 2H d'arrêt pour les autres faisceaux)

Quelques problèmes avec 1 des alimentations du bump 16 utilisée pour extraire les faisceaux vers TT2.(1/2 d'arrêt vendredi et 1H30 d'arrêt samedi)

SPS (Django Manglunki)

The SPS delivered beam to the LHC, the North Area and CNGS (4x18 bunches with 100ns spacing for precise time of flight measurements), and the setting up of HiRadMat continued from Monday to Wednesday.

The problems experienced last week with the large emittances of the LHC beam were solved by the PS (recabling of extraction magnets DHZ15) and the SPS (north extraction septum was pulsing on LHC).

On Wednesday the mains tripped because of a cooling problem in BA4 (2:30h beam stop).

The MST2177 temperature interlock had to be disconnected as the yoke temperature reaches 90 degrees when there are four LHC batches.

The glitch on Saturday morning tripped the RF and mains but they restarted without problems.

LHC

Another interesting and ultimately successful week:

- Resolution of injector problems (tails, high emittance) – pulsing septa in SPS, MTE extraction in PS
- Reversal of LHCb polarity: required re-optimization, and removal of bunches only “colliding in IP8”

Record luminosity ($6e33 \text{ cm}^{-2} \text{ s}^{-1}$) and 0.9 fb^{-1} delivered.

More details:

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