Accelerator complex status

End week 19 (Sunday 15th May 2016)

TI (Jesper Nielsen)

Here's the TI summary of the week: https://wikis.cern.ch/display/TIOP/2016/05/13/TI+summary+week+19%2C+2016

Booster (Jean-Francois Comblin)

This week, the 2 technical issues worth mentioning are:

- Wednesday 11 May during the night, the injection septa had a faulty electro valve. Power piquet, specialist and RP piquet have been called as an intervention in the ring was needed to replace it. 5h09 stop.
- Saturday 14 May at 2AM, the 4 ejection kickers tripped due to the leak detector of the hydraulic system. The specialist did a remote reset. 1h53 stop.

Hopefully these 2 faults did not affect the LHC as it was in stable beam at that time.

For the other activities:

- The VdM beam was set up by Fabrice, and was ready Tuesday Afternoon for the downstream machines.
- The LHC 25 ns BCMS beam is also well advanced and needs now RF fine tuning by specialist. Thanks to Fabrice and Nicolas.
- Various MDs: low-level RF, 160 MeV beam, …
- After investigations, Jose found that the problem we had for some time now with the vertical emittance of the ring 4 is due to the wire scanner itself. Comparative measurements on BCMS beam seems to confirm that. To be followed-up this week.

PS (Ana Guerrero Ollacarizqueta)

Reasonable performance during the week with only a few issues stopping the beam production.

The MPS tripped several times with a total down time of 1h50m due to a water flow issue. The SMH16 was down for a total of 1h due to a power supply issue. An intervention on the injection bumper BSW43 to change an auxiliary power supply was needed with a beam down time of 1/2h. Two ten MHz cavities were in fault causing ½ hour beam down time.

There were several RF issues too touching different beams. H8 beams suffered in several occasions of a phase loop offset deregulation. The delivery of the LHC50ns beam on Wednesday was affected by an unexplained return delay misconfiguration in a 20MHz cavity. An issue of noise in the h42 and h84 double splitting delayed the LHC filling due to the beam quality on Sunday night. The 200MHz cavity piquet was also called during the week-end.
The new frequency program using white rabbit transmission was switched on for test during the week. It is not clear whether some of the intermittent RF issues might have come from this new program. Under investigation.
All operational beams have been delivered including the van der Meer LHCINDIV with horiz. and vert. emittances of 3 and 3.6 mm.mrad respectively.

SPS (Karel Cornelis)

SPS continued its reduced operation both for FT (1e13) and for LHC (72 bunches).

On Wednesday the FT beam was stopped for a dedicated MD with 50nsec beam at 26Gev. On the same day, a problem with a ventilation door in TAG42 delayed the LHC filling by about one hour.

Thursday, we checked the VDM beam as preparation for this week. On Sunday morning, some vacuum valves closed in sextant 5 due to vacuum controls problem.

The night from Sunday to Monday the longitudinal quality of the 25nsec beam coming from the PS degraded, resulting in painful filling of the LHC.

On Monday morning it was the bunch splitting which gave trouble. In the evening it was mainly beam outside the normal bunches which caused problems for the LHC injection losses. This resulted in long LHC filling periods which had an important impact on FT availability (FT is stopped during LHC filling).

ISOLDE (Eleftherios Fadakis)

Short summary

ISOLDE has been successfully accommodating users on both GPS and HRS.

Main issues were loss of protons due to BLM on PSB side and the magnet protection units for both HRS power supplies.

The later needed several manual power cycles to come back to life and allow the users to continue.

Detailed summary of the week

Tuesday 10/05

HRS

Heating up target at 150A and line at 390A.

Stable beam set up.

IDS stable beam tuning during afternoon/evening.

GPS

SSP collections of 151Gd, 149Gd & 172Lu, 152Tb, 155Tb on GLM

Collections of 172Lu 159Dy on GHM.

Laser tests for 3 hours.

Wednesday 11/05

YRC2.BFC0900 is reading negative value

HRS

HT went off in the morning 2 times.(8am, 11a.m)

Proton scan delayed due to two issues:

1. Issue with a BLM on PSB that was triggering the watchdog and sending the beam to the dumb.

2. We were getting no counts on the tape station. Someone had removed the timing cable from the electronics of Pascal in 197.

Yield check at late morning.

Users taking 16N+14N

GPS

Collecting 159Dy on GHM without protons.

Thursday 12/05

RP intervention in zone 6 to add measurement devices. Patrol performed.

HRS

Once target change on GPS was done, they continued with protons.

Taking 17Ne

GPS

Target change in the morning. New target #561 (7Be)

Set up to GLM in the afternoon.

With 330A of target heating the total beam current was 300pA, 30 in BF4900 and same number in GLM.

Friday 13/05

GPS.BSC4820 and 30: scanners work but only if they are in a 100pA or greater scale.

Exchanged N2 bottles. Miguel requested a time out to be in place at the PVSS application, to prolong the life of the bottles.

HRS

Users lost the beam for ~2h in the evening because both magnets went in fault. Rebooting the FEC did not work. Both magnet protection modules in the power supply room were showing that there was a problem with the water pressure.

4-5 power cycles of both the power converters and the magnets power supplies restored the beam for the users. The modules are still showing that there is a water pressure issue but TI operator confirmed that there is nothing wrong with cooling water in our buildings. To be further investigated tomorrow by the expert.

Users continued with protons

18N+14N then 16N + 14N

GPS

Tuning lasers on Be in the morning.

Be collections at GLM

nTOF got the requested 1GBq of 7Be.

Weekend

HRS

Continue with protons

17Ne then 16N+14N then 34, 33, 31Ar then 17Ne

GPS

2nd collection of 7Be on GLM

Monday

HRS

HT was found off in the morning. A reset brought it back.

Users continued with 31Ar.