

End Week 40 (October 4th) – Status of Accelerators

Summary

ISOLDE	Good – will lose beam Monday during PS intervention
LINACS	OK
AD	No news is still good news.
PSB	Steady week
PS	Lost PS to vacuum leak on injection septum 23:15 Friday. Repair Monday 5 th followed by bake out. Planned accelerator technical stop brought forward.
SPS	Stops to CNGS and FT beam but otherwise OK. No beam over weekend – PS septum problem.
TI [Peter Sollander]	The ventilation unit that stopped CNGS last Sunday was repaired Monday in the evening. No other major events during the week.
LEIR & Ions	Ions extracted successfully into TI2 & TI8 – synchronized with LHC RF.

SPS (Django Manglunki)

The CNGS beam was stopped on Monday since the previous evening, to investigate about the target ventilation unit which seemed to have stopped. Beam was only back at 20:30.

On Monday also, the SFT beams were stopped for 5 hours (17:00-22:00) because of a problem on the bypass of a power supply in North area.

Meanwhile all day Monday, the Pb ions circulated on the parallel cycle in the SPS and were extracted in TI2, TI8, interlaced TI2/TI8, and finally TI2 again for an ALICE dedicated run on TED until midnight. Although the source was running in degraded mode with a shorted electrode, the parameters of the extracted beam from the SPS matched the desired characteristics (7E9 ions/bunch), with even lower emittances than expected (resp .6 and .5 microns normalised rms in V and V, instead of 1.0 in each plane).

On Tuesday there were again the spurious cooling alarms on TBSJ/TBSM, which every time necessitated the reboot of a processor (cfc-ccr-cgtasea).

On Wednesday at 12:00 there was a sharing change in the north Hall as COMPASS went back to taking hadrons, so the intensity was decreased on T6. The same day we had a few problems with RF transmitters, necessitating interventions of the RF power piquet.

Every day the MTE was taken in order to gain experience with it. It was first foreseen to put it in operation on SFT for the week-end but the intensity could never be brought up to the required level without causing too many losses in the CPS.

Operations stopped on Friday evening shortly after 23:00 with the breakdown of the PS proton injection septum.

Booster (Alan Findlay)

The PSB had a good week, with nothing but the usual selection of minor niggles.

The high point of our week was the single batch transfer MD's with the PS, where we commissioned the LHC50 single batch beam with the PS central building to their full satisfaction. They were able to capture the beam, blow up and split the beam on the injection flat top and then accelerate it to extraction as normal. We continued to deliver the LHC50 & LHC75 single batch beams to them along with the LHC25A&B, to allow them to test some PPM issues they were concerned about. This means that we can now deliver these single batch beams upon request, as was going to be the case for the MD's planned for the start of the week...

There were a few minor breakdowns, notably the problems with the access system on Saturday night, where the 1 remaining beam in the PSB had to be cut while the specialist solved the problem.

PS (Gabriel Metral)

Quelque petits problèmes avec les cavités C10 et le Kicker d'injection.

Semaine OK jusqu'au problème avec SMH42 (septum d'injection)

Jeudi, le cycle LHC 50ns a été fait en 1 seule injection depuis le BOOSTER.

ISOLDE (Erwin Siesling)

GPS:

GPS has been running fine with an extended run for the ISOLTRAP experiment which stopped last Thursday.

No major problems during the run.

GPS now in radioactive cooldown and next target-change is foreseen coming Thursday (8th).

HRS:

Tuesday:

HRS target-change was carried out. We were facing some problems. The new target did not couple on correctly. The finger on the piston which controls the target-valve did not close completely the valve on the old target. This is not a serious problem but this time it did not slide into the new target's ring on top of the valve but touched it so that the target was missing just a few mm's to be grabbed by the clamps. A second attempt (with help from vac cntrls H. Vestergard) worked but unfortunately the clamps had been clamping 'in air' and moved in just a bit too far causing the position of the indicating 'closed' switch to move. We decided to simulate the 'clamps closed' signal since it was clear from the camera monitors and from the correct vacuum pressure that the new target is clamped correctly. With only 2 more target-changes to go an intervention in the target-zone on this issue is considered as not useful.

Thursday:

The RFQ HT power-supply died in the evening.

Friday:

RFQ HT spare power-supply installed (N. David). Proton scan on target and convertor followed by yield tests on Mn. Physics started Friday-evening.

Weekend:

We are running HRS at 60kV. A few times the high voltage dropped and we had a vacuum increase due to sparks in the front-end. Fast recovery.

Saturday-afternoon:

2 hrs no beam from PSB due to intervention.

Saturday-evening:

HT dropped and severe vacuum increase again in the front-end causing the elements to drop. Fast recovery and reset of the power-supplies brought all back up.

Sunday-evening:

More sparking in the front-end. This time far more frequently and the HT1 power-supply stopped working. Decided to swap to the HT2 (GPS) power-supply to continue physics. Specialist (J. Schipper) will be contacted monday for the HT1 issue.

Other business:

Monday an intervention in the PS is planned on the septum leak. Isolde beam will be cut as of 07:00. Intervention might take the whole day. Isolde beam available overnight.

LHC

S12: Phase 2 in progress. Some issues with RB QPS compensation.

S23: Power phase 1 progressing well. nQPS tests in progress.

S34: 3.8 K

S45: DFB consolidation, QPS installation being completed. ELQA of main circuits later this week.

S56: Powering phase 1. Phase 2 – second half of this week.

S67: ~4 K

S78: Phase 2 from Saturday. RB splice measurement up 2 kA performed. RQF/RQD test revealed that dump resistor not connected – ELQA required to check that everything is OK.

S81: cold