End Week 9 (March 6th 2011) – Status of Accelerators

SPS (Karel Cornelis)

SPS continued to deliver PROBE and INDIV beams to the LHC. The setting up of the 75 ns bunch trains was finished. Some out gassing, due to electron cloud, could be observed on MKE4 but the beam quality was not affected (emittance about 1.8 to 2 mm). There was a problem with the position acquisition of the wire scanner during the IN scan, which turned out to be caused by a too fast acquisition gate. The problem was solved and we continued to calibrate the wire scanners using orbit bumps. On Tuesday we started setting up the 25 ns beam. As was feared, the MKE4 was out gassing a lot, and initially we could only keep the beam for 300 ms. After a short scrubbing we could keep the beam for the whole length of the flat bottom, enough to set up the longitudinal and transverse feedbacks. An access was needed on Wednesday in order to change a tube on the H1 damper amplifier. A lot of time was spent on setting up the damper on the 75 ns and 25 ns beam. On the 75 ns, everything is finished, but there is still a problem with the horizontal damper on the 25 ns beam.

PS (Rende Steerenberg)

Last week was a good week for the PS. The LHCPROBE, LHCINDIV, LHC75 and LHC25 beams were delivered to the SPS. The setting up of the CNGS and nTOF beam progressed very well. CNGS is extracted with 2.1E13 ppp and nTOf with the nominal 8.5E12 ppp.

The first part of the East area beam line was made operational much earlier than foreseen for tests with the slow extracted beam on the beam dump before the East Area. The slow extracted spill will confirm us if the ripple observed on the Bdot signal can be seen on the beam.

Throughout the whole week there were many resets on many different cavities. We will see with the equipment specialists if this is due to the setting up period and the start of the run or if there are more serious problems.

The setting up of the beam for the MTE extraction using the SEH31 was started.

Booster (Giovanni Rumolo)

Anyway, it was a very quiet week at the PSB. It started with a shaver problem in Ring 1, which was solved already on Tuesday morning. The vertical septum of Ring 4 had to be reset a couple of times. Lots of work was done by Bettina and Alan to try to reduce the vertical emittance on the MD1 beam for MTE, as was requested by the MTE users. The longest downtime was caused by a fault in Linac2 quadrupole.

LHC

- Mechanics of pre-cycle, ramp and squeeze in good shape
- Optics measured and corrected through the cycle – both beams at 1.5 m
- Instrumentation re-commissioned and in good shape
- Feedbacks operational
- Collimation set-up finished at 450 GeV, in progress on 3.5 TeV flat-top

- Injection protection setup – good progress made.

More news at:

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

TI (Peter Sollander)

Sunday 27 February: 400kV perturbation (15% voltage drop on two phases for 80ms) stop PSB and PS for almost two hours.

Thursday 3 March: Interlock on user side stopped demi water circuits in BA6 (septum).

Friday 4 March: More demi water interlocks on user side BA2 and BA6. Apparently induced by beam. Major event pending.

Saturday 5 March: CNGS ventilation unit fault (UACV1-00230 in TCV4): Broken bearing. Repair to be planned asap.