

## Accelerator complex status

**End week 50 (Sunday 13<sup>th</sup> December 2015)**

**End of 2015 operations (06:00 Monday 14<sup>th</sup> December 2015)**

### TI (Jesper Nielsen)

TI summary: <https://wikis.cern.ch/display/TIOP/2015/12/07/TI+summary+week+50%2C+2015>

### Linac3 (Richard Scrivens)

Generally smooth running.

On Monday (7/12) the oven was moved (so-called shaking), which released rapidly the lead from it. This initially made the source very unstable.

However, after some source parameter tuning, excellent beam intensity could be recovered, and maintained up until Saturday, at which point the intensity started to drop off.

MDs were made up to the last minutes of running. The Linac will be switched off today, with modifications to the source ready for starting it up for tests in February.

### LEIR (Jerome Axensalva)

This last week for LEIR was quiet on the operational point of view. A harmless cavity trip on Friday, some trips of the Linac3 solenoids which had to be reset manually because the SIS auto-reset had some trouble.

On the other side, there was heavy data recording from the crash program team as well as continuous, step by step, improvements on the intensities of the MD beams.

### PS (Rende Steerenberg)

The Ps had a very good week of Pb ion running with a near to 100% beam availability out of the PS.

This morning all beams were stopped and most of the equipment too.

This week some hardware test will be performed and Friday all zones in the PS complex will be put in closed mode, as no access is planned during the lab closure.

### SPS (Django Manglunki)

A very good week for the SPS, delivering Pb ion beams to the LHC and UA9. A lot of parallel MDs also took place on IBS and tune scans during flat bottom, and in view of slip-stacking RF without phase loop, and radial detuning exploration.

On Monday the batch spacing was still 175ns.

On Wednesday Etienne Carlier (TE/ABT) found the jitter on the MKP was due to a race condition. Once solved, the MKP rise time was improved which allowed, after adjustments of the transverse damper, to inject the ion batches with a spacing of 150ns from Wednesday evening onwards.

On Thursday, four hours of coasting beam were given to UA9.

On Friday morning a fan failed on the power supply of RF cavity 3. The RF piquet replaced it. No beam down time as the LHC was in stable beams.

In the afternoon, a test was done to inject batches with four generators and a spacing of 225ns, very promising for LHC protons next year. 200ns was also tested, it could work for p-Pb.

On Saturday a fan failed on RF cavity 3, needing an access for its replacement. The LHC kept its stable beams longer during the intervention.

For the last LHC fill used for physics on Sunday, the average bunch intensity was over  $2.1 \times 10^8$  ions.

The last beams were sent to the LHC on Sunday afternoon for the quench test. The SPS was stopped at 22:15 once the LHC confirmed it would not take any more beam after the successful quench.

## LHC

On the back of excellent performance from the injectors, it was a very good Pb-Pb run with around  $430 \text{ ub}^{-1}$  delivered to ALICE (levelled at  $1 \times 10^{27} \text{ cm}^{-2} \text{ s}^{-1}$ ) and around  $700 \text{ ub}^{-1}$  to ATLAS and CMS (peaks up to  $3.5 \times 10^{27} \text{ cm}^{-2} \text{ s}^{-1}$ ). A lot of other things were also slotted in (crystal collimation, quench tests etc.).