

End Week 17 (April 29th 2012) – Status of Accelerators

TI (Peter Sollander)

TI summary in the usual place,

<http://wikis/display/TIOP/2012/04/30/TI+summary%2C+week+17+2012>

No major events last week. Busier than normal week, but not too bad considering that it was technical stop.

AD (Tommy Eriksson)

AD has been running for physics since Friday delivering beam to ASACUSA and AEGIS (the other two users are still preparing).

The AD supervisor had to come in a few times over the weekend to sort out beamline set-up issues, in particular for AEGIS since it's their first "real" physics run.

Quite some time was used last week for beamline setup and tuning.

The longitudinal emittances of the ejected beam are better than last few years.

ISOLDE (Didier Voulot)

Target 446 YO HP is still running on GPS and was used for solid state physics collections Wednesday to Friday. Next target change on Thursday 3/5.

HRS: Target change on Monday, finished on Tuesday (target clamping problem). Separator and RFQCB set-up on Wednesday, proton scan on Thursday. Beam on Friday evening (after RP monitoring problem). Yield checks on Saturday morning. Running fine during the weekend, Cd isotopes for COLLAPS.

Booster (Klaus Hanke)

A very interesting week...

- **Tuesday** coming out of the technical stop, we were ready to start the PSB 19:24 but we couldn't as the patrouille of the PS was not validated (missing piece of fence on the surface area). Only on Wednesday at 10:32 the PS patrouille was validated and beam was back in the PSB
- **Thursday** missing timings on the recombination kickers; the problem eventually disappeared without any explanation. Thursday evening first beam captured and accelerated with the new Finemet cavities. See Booster logbook and mail by M.Paoluzzi with some images.
- **Friday** 14:34 Ramses update, afterwards unresponsive. All beams stopped. At 17:00 RP believed they had fixed Ramses and gave us the go-ahead to start up the machines. Unfortunately there was a strange beam loss at injection which we tracked down to the Q-strips. Rebooting the front-end did not help so we called the CO piquet, who was already at home and needed to come back in. He changed the GFA cards which did not help, but switching OFF and back ON the crate did.
- While troubleshooting the Qstrips was ongoing, RP called back again and said that they would need another intervention which would take 5 (!) hours. At 19:14 RP had finished their intervention, so in the end it was much shorter than anticipated; beam back!
- **Saturday** 22:28 Ramses died again. All beams were stopped and the RP piquet called. He checked whether the Arcon system could run independently, which was confirmed and we could put beam back 23:24.

PS (Ana Guerrero Ollacarizqueta)

MDs were carried out as expected. In order to leave place for the MTE dummy septum, DHZ15 was replaced by DHZ03 for orbit correction at top energy and all beams were reconfigured accordingly. Also the new gamma jump quadrupole was tested and all beams set up. The overall losses in transition do not change. At the end of the week it was decided to keep the changes.

During Tuesday technical stop the IMPACT system was used with an overall positive balance. Accesses were nevertheless slowed down mainly due to a good percentage of experts doing the interventions either not being aware of the new procedure or forgetting their impact numbers.

The CNGS 100ns beam was set-up.

After the end of the interventions the beam could not be restarted as foreseen because a part of the PS wire fence in the outside was missing and also an intervention on SMH16 electronics was needed. Beam was back Wednesday at noon.

Beams were stopped for 2h approx. due to POPS going in fault. The issue was traced and a solution given by Friday. Several problems with the radiation alarm monitoring system obliged to switch all beams off during approx. 5h as a whole.

SPS (Django Manglunki)

The SPS was in MD on Monday and Wednesday. A single bunch INDIV beam of up to 4.7×10^{11} was accelerated using the Q20 optics.

On Tuesday the SPS was in technical stop, magnet 51370 was exchanged for one with a coated chamber. This meant the magnetic length could not be measured in the lab, but had to be computed the next day with the beam.

The magnet was shimmed on Thursday morning during an access.

CNGS beam was restored on Thursday at 14:00 Beam was given back to the LHC during the week-end, after the collider sorted its own problems.

Main problems during the week:

- the turnstile on ECN3 was broken all day Thursday and was only repaired on Friday. Access was thus done by the equipment door, with visual camera control from the CCC.
- an unplanned software intervention on the RAMSES servers turned off the beam for over 9 hours on Friday and 1.5 hours on Saturday
- 2 hours of beam stop due to a RBI816 fault (interlock power module) on Saturday afternoon.
- GS/ASE has changed hardware in the North Area access system, imposing a large modification of the software. Our BE/CO colleagues hope to be ready by Thursday morning.

LHC

Technical stop Monday to Friday. Rocky recovery over the weekend: RAMSES; earth fault QF.A12.

More details:

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