

End Week 26 (July 3rd 2011) – Status of Accelerators

LINAC

No major problems reported.

ISOLDE (Erwin Siesling)

GPS:

Good news. On Wednesday the GPS robot has been repaired. This action took the whole day and included re-teaching of the target exchange point, the target storage position (10 done, enough for the remaining GPS targets) and the GPS front-end point.

The received collective dose for the whole intervention was 151 μSv (expected dose 260 μSv) in spite of the additional steps of the positions re-teaching. The dose rate was lower than expected because of the longer decay time than foreseen.

HRS:

Last Monday the #450 Ta target for the present Miniball experiment Nd run was put on.

The REX setting-up was quite difficult and time consuming, however with great help from Fredrik Wenander we managed to give the beam within reduced setting-up time to Miniball on Friday-afternoon as scheduled.

The users are happy and even more when on Saturday at RILIS Bruce Marsh managed to optimise the lasers and increase the Nd yield significantly.

RILIS lasers will switch to Pr on Monday morning for yield tests and the run will end at midday.

Apart from a drop off the 9Gap RF amplifier and the electrostatic elements in the BTS line (between REX trap and EBIS) all has been quite and running fine so far over the weekend.

Double target-change foreseen Monday afternoon on HRS and GPS.

Booster (Giovanni Rumolo)

An excellent week at the PSB with only a minor failure of the Ring 1 distributor on Wednesday afternoon, which required the exchange of a Thyatron.

Investigations on the septum trips from last week, which were found to be caused by noise on the magnet current measurement, have been carried on and revealed that the noise was introduced at the level of the secondary circuit of the converter. A temporary fix has been put in place by feeding the regulation card with the measurement of the current at the primary of the converter (with an appropriate scaling factor). The final solution, which requires the exchange of the current measurement device at the secondary in the tunnel, probably damaged by radiation, is planned to be implemented during the Technical Stop next week (5 July).

PS (Rende Steerenberg)

The PS had quite a good week of running with good availability for the users.

Nevertheless there were many technical issues, mainly with the RF cavities. The 40 MHz cavities situation is particularly worrisome as there is a broken power supply that is not trivial to repair and we need very frequent resets, which seems to be due to difficulties with the tuning.

We also had to perform quite some resets on the different power converters in the East Area.

The SMH57 temperature interlock system is temporarily disabled for consolidation and solving a bug. In the meantime the magnet is protected by the rms calculation in the power converter, as was always done until the start of this year.

On Saturday the CNGS and SFTPRO beams were perturbed until in the evening a thyatron for the CT extraction was changed.

For the technical stop we have to following planning concerning beam stop:

- SFTPRO, CNGS, nTOF (and other high intensity) beams are to be stopped on Monday 04/07 at 08:00
- All EAST beams are to be stopped Monday 04/07 at midnight (Mon/Tue)
- All other beams have to stopped Tuesday 05/07 at 05:00

SPS (Karel Cornelis)

We had a busy week in the SPS. Different beam flavours had to be prepared for the LHC MD: single bunch high intensity ($2.9E11$), single bunch high brightness ($2.5E11$, 2micrometer), 25 nsec, intermediate single bunch intensities ($2.5 E10$), etc. All these beams could be prepared and delivered to the LHC while continuing delivering beam to CNGS, NA and also continuing the HiredMat commissioning on Monday and Tuesday.

Two main problems occurred last week. On Monday afternoon the SPS was stopped due to, (yet another), fault on an 18kV cable to BA1. Two hours were lost for switching to the reserve. The fault was quickly localised on Tuesday (1 hour stop) and on Thursday the cable was repaired and functioning again. Friday evening a vacuum leak in TT20 stopped the whole north area. The vacuum leak is situated in the splitter zone again. Since FT physics had to stop on Monday morning, and since any repair would take most of the weekend, it was decided to postpone the repair until this week during the SPS MD and technical stop.

We also had a few stops of the NA due to Chain 11 which had to be cut due to some 'new features' of the access system. Each time the access matrix of a zone is changed, the whole NA access system has to be re-initialised, resulting in chain 11 being cut.

TI (Peter Sollander)

<http://wikis/display/TIOP/2011/06/27/TI+summary+week+26%2C+2011>

Events of the week: another 18kV cable fault on the SPS, this time between BE and BA1. The cable is already repaired. On Thursday, a bad cable connection on the LHC access system stopped the MD for a couple of hours in the morning.

LHC

Up to 1380 bunches per beam, peak luminosity of around $1.25 \times 10^{33} \text{ cm}^{-2}\text{s}^{-1}$. Two nice long fills with around 62 pb^{-1} in one fill on Monday. 90 m run for Totem and Alfa on Tuesday leading into 5 day MD period which ended 06:00 Monday 4th July. 5 day technical stop thereafter.

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