

End Week 39 (September 27th) – Status of Accelerators

Summary

ISOLDE	Very good
LINACS	OK – 1 hour 20 mins down time over the week
AD	No news is good news.
PSB	Steady week
PS	Good week.
SPS	Good: ions, MD and MTE. CNGS down Sunday evening – ventilation station for CNGS target
TI	3 major events.
LEIR & Ions	Good progress in SPS.

ISOLDE (Magnus Eriksson)

GPS:

IS427 (Collaps) has been running with 50kV on a standard surface UC2C-target with the help from RILIS (Laser) to ionize and collect various Mg-isotopes (24Mg, 26Mg, 27Mg, 29Mg, 30Mg, 31Mg, 32Mg, 33Mg).

Only trouble this week has been the High Tension which has tripped several times and forced us to run in a "Non-protected" mode for the ASTEC.

This is normally not recommended as there is no protection for the power supplies in this mode.

Running un-protected means that the High tension will not trip every time there is a small spike for vacuum or target current.

To run in this mode close monitoring is needed and because of this the experiment have had one person dedicated to watch HT/Target current/Vacuum, ready to cut HT if values would rise above what's safe.

In a normal case we would probably have set up the run for 30kV when experiencing this type of troubles but COLLAPS needs at least 50kV for their setup. These problems are likely to be coming from a "dirty" extraction electrode something which has been observed previous years.

The extraction electrode is changed in the end of each shutdown period as it is highly radioactive at this time of the year, no intervention for cleaning it is possible during the run. Efforts to try and "burn off" the dirt by moving the electrode closer to the 2000°C target and keep it there for some time (has proven succesful earlier) but unfortunately NOT this time.

It should be said that despite of this the run has been successful and that COLLAPS has collected a lot of interesting data and done a good job of monitoring the HT.

No other problems has been observed!

HRS:

At rest, target to be changed Tuesday 29th.

SPS (Jorg Wenninger)

SFT and CNGS beams ran smoothly for most of the week (except for a lengthy MD recovery on the SFT). The CNGS beam was stopped around 22:30 on Sunday because a target ventilation unit seems to have stopped. No abnormal temperature were recorded, but it was decided that it would be safer to stop the beams and prepare for an inspection on Monday.

Ions :

Monday saw the first ions extracted to TT60 with a normalized emittance of less than 1 micron in both planes. Thursday ions were again extracted to the TT60 TED, but this time with full rephasing to the LHC.

The rephasing was still a bit shaky, but acceptable for extraction. It should therefore be possible to provide synchronized ions to the TI2 TED for ALICE on Monday.

MD :

The MD period with coasts at 120 GeV for UA9 (Tuesday) and BI studies

(Wednesday) was rather efficient and successful. Recovery from the MD was rocky for the North Area with large losses in TT20 which were finally traced to one of the bypass PCs. Normal conditions were only restored around 22:00 for the North Area (instead of 16:00).

TI2/TI8 :

Friday saw the preparations for TI2 and TI8. Everything went smoothly except for a few difficult hours in the afternoon when IT made an unannounced intervention on the CCDB (Controls Config DB). This brought down the console managers, the elogbook etc etc. First beams were sent to TI2 around 18:00, and to TI8 shortly after 19:00. So far the tests went smoothly.

MTE :

In parallel good progress was made on the MTE beam. On Friday the MTE beam was extracted to the CNGS target in the morning, and despite the unfavorable beam structure the BPMs did trigger and measure correctly.

In the evening I agreed with Massimo that we would put the MTE in production on the fourth CNGS cycle for the weekend to gain some experience. The MTE had to be stopped in the night to Saturday due to a PS extraction bumper problem, but it could be put back on Saturday morning. The typical intensity on target was $1.5E13/\text{cycle}$. It had to be stopped Sunday night due to the problem on the CNGS ventilation.

PS (Rende Steerenberg)

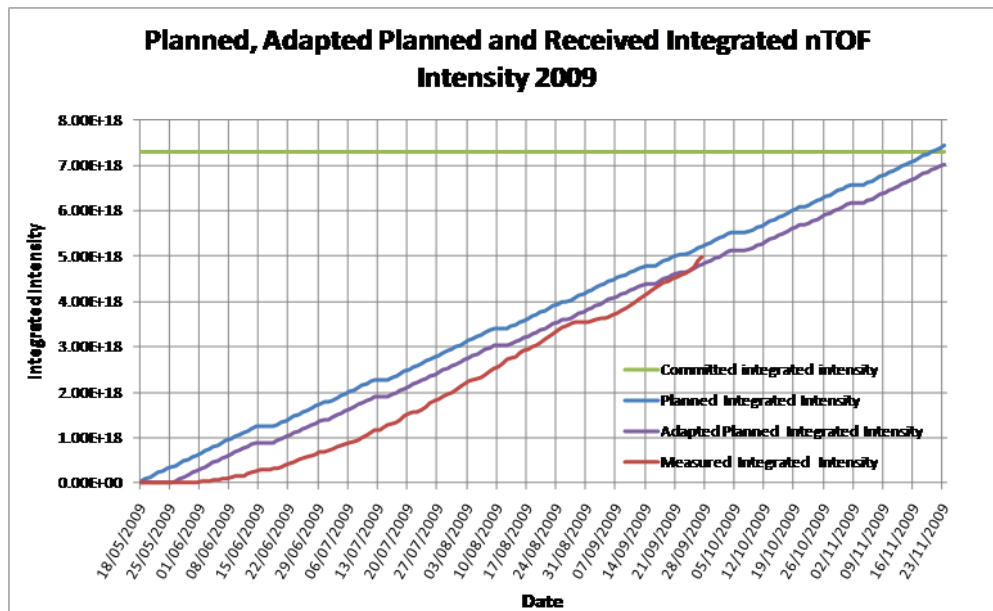
The PS has been running quite well and provided beam to all the users in the East Area, AD, nTOF and the Fixed Target and CNGS physics from the SPS. On Tuesday, Wednesday (MD days) and over the weekend (T12/T18 test) the different LHC beams were provided to the SPS. Friday afternoon and over the weekend the MTE beam was sent to the SPS on the 4th CNGS cycle with 1E13 protons per PS cycle.

A few points that require extra attention:

- The radiation alarms due to the bad pulsing of the PS extraction to the TT2 line persists. CO is continuing its investigation and orients itself more and more to a timing problem. The problem is in fact twofold: 1) None of the extraction elements pulse and do not give any acquisition, which seems to be a timing problem that is under investigation with CO and 2) the extraction septum pulses with the value of the previous cycle, like we had with the BSW16 power converters in May of this year. The latest is under investigation by TE/EPC.
- The video streaming of the access controls system, posed serious problems again on several occasions. The image sometimes blocks an important information to guarantee safety was lost. Some improvement were made a few weeks ago, but they do not seem to be sufficient. If we have these problems during the 2 day technical stop on 7 and 8 October, there is a serious risk that we will have to do some "patrouilles" which mean extra delays for technical stop activities and/or restarts.
- DIAMON used to report and diagnose problems with front-ends reported many problems with itself last week and needed several diagnostics by CO.

nTOF intensity graph and data:

Monday morning 28/09 at 00:00 we delivered 5E18 which is 68% of the total committed intensity.



TI (Peter Sollander)

Here are the major events of the week:

- 21/9: 18kV breaker tripped in BA4 on overcurrent. Seems to be problem of configuration by SPS.
- 22/9: FDED-00049 water station stops Linac for over an hour.
- 27/9: UACW2-00519 ventilation station for CNGS target stops yesterday. Beams stopped. Meeting this morning 09:00 with Edda and EN-CV.

LINAC2 : (Christian Dutriat)

Résumé des pannes du Linac 2 : Total : 1 heure 20 minutes

*mardi 22 : 1 heure 10 minutes - 15h46 à 16h56: eau déminéralisée station Leir: défaut pompe primaire n°1, commutation sur la pompe primaire n°2

*mercredi 23 : 5 minutes - 14h12 à 14h17 : Interlock porte alimentation BHZ30.

*jeudi 24 : 5 minutes - 15h10 à 15h15 : câble déconnecté sur alim BHZ30.

*vendredi 25 :

*samedi 26 :

*dimanche 27 :

*lundi 28 :

Résumé des pannes du Linac 3 :

Multiplés et fréquents réglages des paramètres de la source. Reboot de DLN3TRA1, DLN3POW et DLN3TRAF..

*Dimanche 27 :

Court-circuit sur une électrode de la source compensé par une augmentation du courant du solénoïde d'extraction et de la haute tension.

LHC

S12: MB and MQ to 2000 A. Nice first results from splice measurements. Phase 2.

S23: Cold getting ready for powering phase 1

S34: 50 K

S45: Cold

S56: ELQA problems with nQPS.

S67: 60 K

S78: nQPS fully installed. Phase 2 next weekend.

S81: Cold – DOC started

