

## End Week 49 (December 7th) – Status of Accelerators

### Summary

<b>ISOLDE</b>	Shutdown
<b>LINACS</b>	Linac2 fine
<b>AD</b>	Good performance
<b>PSB</b>	Cool
<b>PS</b>	Very calm week
<b>SPS</b>	Very good week
<b>TI</b>	Major events – 18 kV drop Wednesday 2/12/09 01:23

### Booster – Alan Findlay

The PSB survived another week without being the cause of any major down time, for which we are truly grateful. The usual host of niggles kept us on our toes however, but nothing to cause us any great worries.

It wouldn't be possible for me not to mention "the" Meyrin power cut last Wednesday morning, but we got through it with far fewer problems than one could expect. The PVSS application we tried to use to bring the vacuum back online would not work for us, but a call to the piquet demonstrated that it wasn't just us, it wouldn't work for him either. He was obliged to come in and join us, and for some reason that remains unknown, by the time he arrived in the CCC, PVSS would work for him. He got the various pumps back on without any problems, opened the valves for the PSB and transfer lines, then headed off to help Detlef in LINAC2. We were given the green light to switch back on the PSB at 11H30, and within an hour we were ready for beam. The LINAC took until 13H20 to get back into shape, but were then giving beam to all users.

We noted some problems during the afternoon, the multipoles were not responding forcing us to call the piquet, and the archives became very slow requiring an intervention by the specialists. The latter took a few days to solve, but the database specialists had a solution by Friday afternoon, after which the archives were fully operational once more.

PVSS still wouldn't work from the PSB workstations, and it took a couple of days of badgering by the OPs crew to get it fixed.

Bettina discovered that the sem grids had taken a hit in the power cut, and half the wires were out of action, so the specialist was briefly allowed into the machine in the shadow of the PS intervention Thursday, and fixed them.

We found that the PSB MD1 user was in an unusual state for the MTE beam in the PS, but we could find no reason for this or when it had been done. After checking with the users, we returned to the archived situation on Friday, once the archiving problems had been solved.

## PS (Gabriel Metral)

### Liste des Operations faites durant la semaine

AD, EASTA, LHCPROBE, LHCINDIV, MD1

#### Résumé

1 h30 d'arrêt des faisceaux en début d'après midi Mardi pour intervention sur cavite 80-89.

Coupure générale Meyrin Mercredi matin a 1H10. Machine PS redémarrée très rapidement après OK TI donné a 11H 45

13 H d'arrêt pour les faisceaux EAST et LHCPROBE

15H d'arrêt pour le faisceau AD

Faisceau EAST coupe 1/4H Mercredi AP (dysfonctionnement du monitoring de radiation)

Faisceau arrêté 1H en début d'après midi Jeudi pour intervention sur cavité 36 (10mhz)

Réglage Vendredi de la MPS pour réduire le ripple sur le palier basse energie.

#### Problème en suspend

Un saut de bucket a plusieurs fois été observe a l'injection SPS pour les faisceaux LHC.

Depuis la CCC, nous ne disposons pas d'outil pour confirmer ce diagnostic.

(Le CO regarde la possibilité de mettre en place un équipement semblable a celui qui permettait de diagnostiquer le synchronisme de l'extraction des Leptons vers le SPS)

## SPS (Django Manglunki)

The main activity of the SPS was to deliver the probe beam to the LHC, with an increasing intensity along the week, up to  $8E9$ /bunch on Sunday.

Normalised rms emittances are regularly measured around  $2\mu m$  at  $450GeV$ , once the injection oscillations are corrected. The controlled transverse blow up is now available to obtain larger emittances.

In the North Hall, the beam was delivered for AMS setting up Monday, Thursday, and Friday. The beam is now ready for whenever AMS is.

Apart from a  $18kV$  power cut on the Meyrin site which caused a 13 hour beam stop on Tuesday, the main problems encountered in the week were RF

related: a bad contact in the low level creating satellites around the LHC bunch, the trips of transmitters TRX5 and TRX8, and a phase jump of  $180$  degrees at injection of the LHC beam.

## AD (Tommy Eriksson)

Monday 30/11:

- Re-tuning of ALPHA beamline to recover transfer and trapping efficiency.
- Electron cooling HV-interlock accidentally tripped during fire-alarm maintenance - cathode filament could be restarted before it cooled down too much (op-team was present in the AD control room). Beam back to users in less than 1 hour.

Tuesday 1/12:

- 3 hours lost due to PS RF problems.

Wednesday 2/12:

- 01:16: General (Meyrin) power cut. All AD equipment off including vacuum and cooling station. Help from all equipment groups needed to assist with restart.
- 11:30 Power/water back.
- 19:15 First beam delivered to users. Intensity somewhat reduced (80% of nominal).

Thursday 3/12:

- 16:15 Full intensity recovered.

Friday 4/12:

- Cryo system and ring vacuum pressure fully recovered.

Weekend:- One (quick) intervention by FL.