

End Week 39 (October 4th 2010) – Status of Accelerators

Linacs (F. Gerigk)

Linac2:

Since last weeks, (starting with 20 Sep.), there were higher than usual radiation readings in the source area (on PAXS23 on Monday 20th and in that week values up to 8.5 uSv/h), which could not be explained. RP set up a radiation monitor to identify the type of radiation and to see if we need to notify the visitor service. A first estimate says that we are dealing mainly with Gamma/X-Rays.

From this Monday afternoon on the readings went down to below 4 uSv/h (average) which corresponds to normal values. Otherwise quiet.

Linac3:

Source with the fixed bellow went back into operation and is working since then without any new vacuum leaks so far.

PS Booster (G. Rumolo)

It was generally a good week for the PSB, with just a few hiccups.

In the night between Wednesday and Thursday, 2.5 hrs downtime were caused by an MPS ground fault. The piquet Power had to intervene and change from Group 4 to the spare of Group 3 and replaced two fuses that had blown for Group 6. On Friday an electrical glitch put the MPS off (fault on the Booster compensator filters). This stopped the PSB for about 1.5 hrs.

Work is ongoing concerning the change to the new electronics for the transformers used by the ISOLDE Watchdog. The new electronics is actually connected and is currently used by the Watchdog, but it still seems to perform not better than the old electronics (more noise). The reasons for that are under investigation, however the old electronics will remain connected until the performance of the new one is improved.

ISOLDE (P. Fernier)

GPS : target 430 Pb. Collection pour experiences sur la ligne GLM. Physiciens satisfait

HRS : target 437 UC2C.

Utilisation de HRS, Trap, Ebis, Rex linac pour faisceau Argon a miniball.

Faisceau donne avec 24H avance, physiciens satisfaits.

Pas de gros problemes techniques ayant provoque interruption faisceau

PS (G. Metral)

Cette semaine a été sans problème majeur pour la machine PS. Work was done on stabilising the emittance blow-up in the PS for LHC beams (figure of 8)

Mardi : Tous les faisceaux ont été coupés 1H30 (MPS down du a un problème control INCA)

Mercredi: pas de faisceau PSB pendant 1H30 (MPS PSB)

Jeudi: un accès a été nécessaire pour changer un relay gap sur une cavité 10Mhz (C46) => 1H sans faisceau

Vendredi: Problème avec la distribution électrique sur le site Meyrin => 1H30 sans faisceaux

User en operation: AD, EASTA, EASTB, EASTC, CNGS, LHC75(150ns), LHCINDIV, LHCION, LHCPROBE, MD4, SFTPRO, TOF

n-TOF intensity: planned integrated: 7.06E18

- Received integrated: 9.25E18 (i.e. 31% beyond planned today and 96% of total committed for 2010).

LEIR (M. Chanel)

LEIR was running smoothly as soon as Linac3 delivered ions which happened on wednesday pm, i.e. at least 1.5 days before the expected time after the vacuum leak repair in Linac3.

Apart from this, only 2 cavity reset and 1 tank+source reset in linac3

AD (C. Oliveira)

C'était une semaine plutôt calme. Machine assez stable. En moyenne on a fourni 3.5E7 P- par SC et l'efficacité était supérieure à 80%

Trois choses à signaler cependant.

1)Problème de vide samedi soir. Une vanne (DE.VVF7048) dans la ligne d'extraction AD c'est fermé parce que le vide dans la ligne est devenu soudainement mauvais. Problème résolu par le piquet. On ne sais pas encore pourquoi le vide est devenu mauvais.

2)Plusieurs problèmes avec le haut niveau de la cavité 10MHz DR.C10-26. Comme on a une deuxième cavité on perds un peu l'efficacité de la machine mais on peut toujours fournir du faisceau. Ces problèmes ont été résolus à chaque fois par Matthias Haase.

3) La longueur du bunch extrait continue d'est assez élevé, 195ns vendredi matin. Valeur souhaité 120ns Le seuls physiciens que cela embête vraiment c'est ASACUSA mais ils semblent s'en accommoder.

SPS (D. Manglunki)

This week the SPS has started filling the LHC with multibatch trains of 2x8 bunches, while CNGS is reaching 3.3E19 protons on target, 10% above the expected value.

Measurement on MTE took place on CNGS2 between Friday and Sunday to try and investigate the stability of the beam.

The ions were available on Wednesday afternoon, about 36 hours earlier than anticipated after the vacuum leak close to the ion source. This allowed to verify the modifications to the low level RF were effective and the beam could be brought the same evening to the flat top at 177GeV/u. The commissioning of the beam control went on until Friday.

There was a power glitch on Friday which only affected the RF transmitters and the SPS was up long before its injectors.

A few problems:

- a fan needed to be replaced on RF transmitter 4
- access in door 134 could only been given with the application on the console in the CCC, not by the users through CESAR
- mains power supply tripped during the night between Saturday and Sunday. SMB01 had to be replaced by SND13 and still needs to be repaired.
- RBI610405: after many trips a whole thyristor bank was eventually changed, but the specialists were not really able to identify the fault, and the power supply tripped again at least once afterwards. This is being followed up.

TI (P. Sollander)

Quiet week until Friday when there was a major perturbation tripping compensator filters around the sites; Meyrin, LHC2,6 and 8.

- EDF made an intervention on a transformer at Bois-Tollot without informing CERN, this intervention created perturbations seen on the filters in ME9 (Meyrin) and LHC 2 6 and 8 at 16:24
- TE/EPC piquet called in to switch the filters back on
- Some problems for LHCb and CAST when the filters were switched back at point 8.
- Everything back up again towards 19:30.

We will need a better procedure for restart in the future. Procedure to be agreed between TI, TE/EPC, EN/EL and the users (in this case LHCb and CAST).

LHC (M. Meddahi)

Full details under "coordination" at

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