

End Week 8 (February 27th 2011) – Status of Accelerators

LINAC 4 (Giulia Bellodi)

Linac2 had a quiet week.

On Wed morning some modifications and bug fixes were implemented in the watchdog and the server was rebooted. Its functionality was tested by provoking controlled beam losses.

In the afternoon loss studies were carried out to understand the origin of recently measured radiation hot spots in the transfer line to the PSB. A new optics was found that reduced the signals on all BLMs and has more injected beam in the PSB.

On Friday morning at 11am the town water station accidentally tripped during a CV intervention, cutting the RF and the quadrupoles power supplies. Linac2 was promptly restarted (total down time of 15 minutes).

Booster (Alan Findlay)

The PSB was back on form this week, with no problems to report.

The week was spent setting up our beloved beams in accordance with the needs of our dear users. This week we set up and handed over to the PS the MD3 (with an LHCINDIV type beam loaded), the LHC_MD_A and the LHC_MD_B (with the 25ns double batch type beam loaded). For our own delectation, we started setting up the AD, EASTB and high intensity CNGS beams, with the operators de-bugging the various problems as they arose.

All-in-all a good week, and we find ourselves ahead of schedule on the beam setting up program

PS (Gabriel Metral)

Pas de problème majeur cette semaine.

Continuation des réglages POPS (nouvelle boucle de tension mise en place mercredi matin)

Bdot très bruite cette année (des fréquences élevées sont mesurées sur le BDot)

Des mesures sont en cours, les faisceau EAST vont être installes (sensibles au problème de Bdot pendant l'extraction lente)

Problème avec un quadripôle TRANSITION (n'a pas affecte les faisceaux LHCPROBE et LHCINDIV [faible intensité]). Un cable s'était déconnecté dans la machine.

Energie matching fait entre PS et SPS pour l'opération LHCINDIV (12566Gauss a l'ejection PS)

Faisceaux disponibles : LHC 50ns, LHC 75ns, LHCPROBE, LHCINDIV

LHC 150ns est réglé comme en 2010 (pas dispo en intensité nominale)

LHC 25ns double batch a été extrait sur la dump D3 (quelques ajustement reste a faire) [sera donne au SPS pour le 1er mars comme demande]

SPS (Django Manglunki)

During this eventful week the SPS delivered the PROBE and INDIV beams to the LHC, and prepared the 75ns beam for next week.

On Monday the beam was stopped by a BIS interlock which was eventually solved by a front-end reboot.

During the night, the beam was not extracted for 2 hours as the destination was forced to SPS_DUMP; the problem was not understood but solved after a sequence change.

On Tuesday afternoon around 16:00, an accident occurred in the CNGS area where a technician fell through a false floor. The firemen evacuated the wounded person through the material door and the search was done at 21:00.

During the night, another interlock problem occurred; this time triggered by the LHC collimators.

On Wednesday morning during a PS stop, a water leak was found on QDA11910; it was decided to fix it immediately as the machine had already cooled down for several hours, and the intervention was finished by 16:00. Restarting took 3h30 longer however, because of a MKD interlock; the BT piquet had to change a card.

On Thursday at 16:30 there was a false fire alarm in BA2. Upon restarting the probe beam could not be injected in the SPS. It turned out the early dump programmed on the preceding cycle inhibited the injection of the following one. This behaviour had already been observed last year but thought to have been fixed.

Friday started with a breakdown of the MST6177 power supply which needed the intervention of the EPC piquet as a circuit breaker had melted down; several interventions took place in the shadow of this breakdown: replacement of a tube on TRX4, and change of an interlock card for BIS.

During this time, the vacuum valves in sector 3 closed, apparently because of the RF intervention. In the afternoon MSE4183 tripped on temperature fault. This was due to two pumps which had stopped.

During Saturday night Beam 1 could not be extracted for three hours because of an MKE6 interlock. This was due to faulty front-end kesba6; the piquet had to change its CTV card (timing).

On Sunday afternoon a glitch on 400kV tripped the SPS RF. Beam was off for two hours as the PS's POPS took longer to recover.

On Sunday evening the operation team took calibration data on the wire scanner using orbit bumps.

During the week-end there were also several erratics on MKP.

There are data missing on the wire scanner emittance measurements for the IN direction, BI is looking into it.

LHC

- Mechanics of pre-cycle, ramp and squeeze in good shape
- Base parameters under control
- Optics measured and corrected through the cycle.

- Instrumentation re-commissioned and in good shape
- Feedbacks operational, features being addressed
- Collimation set-up progressing well...

More news at:

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

TI (Eric Lienard)

Last week event's:

| Date ▼ | Location | Subject | Category | |
|--|----------|--|--------------------|---------------|
| 25-FEB | TCV4 | Arrêt Ventilation CNGS lors de Test batterie 48 V en tsg4 | Minor event | OPEN |
| Lors du test batterie 48V sur EAU108/TS4, arrêt de la ventilation CNGS lors de la coupure du chargeur. | | | | |
| 25-FEB | 363 | Arrêt du linac 2 sur défaut cooling | Major event | AWAITING INFO |
| 25-FEB | UX85 | Alarme Inondation UX85 | Major event | IN WORK |
| Alarme niveau 3 Inondation en UX85 | | | | |
| 24-FEB | SPS | Avalanche d'alarmes incendie niveau 3 sur SPS BA2 | Minor event | OPEN |
| <p>16h16 : Avalanche d'alarme incendie sur le SPS BA2 16h28 : Appel reçu des pompiers qui sont allés acquitter sur place sans voir le moindre défaut. 16h29 : Le piquet CSAM investigate sur le problème sans trouver de raison. L'origine du problème reste indéterminée...</p> | | | | |
| 24-FEB | SEQ4 | Problème de cooling sur SEQ4 | Minor event | OPEN |
| <p>15h33 : Alarme ENS conductivité haute sur EMQ205/4^F -Appel immédiat du responsable CV qui va investiguer sur place -16h39 : Le capteur de conductivité fonctionne bien mais le relais y étant associé présente un problème. L'alarme reste donc active (celle-ci devrait être masquée dans l'attente du changement de la pièce) Le relai va être commandé pour remplacement dans un court délai.</p> | | | | |
| 24-FEB | SEQ6 | Problème de conductivité très haute SEQ6 entraînant arrêt TCR et | Major event | AWAITING INFO |

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| | | dump du faisceau LHC | | |
| 14h00: alarme conductivité haute sur EMQ205/6 ^E 14h01: alarme déclenchement électrique (declenchement GEC) EMQ205/6 ^E 14h01: Beam dump... | | | | |
| 22-FEB | SR5 | Problème de température ambiante SR5 (dans SX5) approchant 35° | Minor event | OPEN |
| <u>21/02/11 :</u> 19:00 Hugues THiesen et un opérateur LHC signalent a la TI que la température ambiante dans le local SR5 du SX5 est beaucoup trop chaud pour les équipements (risque de derive) . Aucune Alarme en TI TIOP appel piquet CV sans reponse 21:30 TI reussi à joindre piquet CV qui va se rendre sur place. - 21h45 : Un technicien d'astreinte (M. Ducret) est intervenu. Les batteries chaudes associée à la ventilation du batiment fonctionais à plein régime. Il à basculé le cooling du batiment sur la deuxième ventilation "de secours" ==> régulation de température normale. <u>22/02/11 :</u> - 09h30 : M. Ducret est retourné sur site investigué sur la raison de la forte chauffe de la ventilation. ==> la sonde de température de cette ventilation envoyait une valeur erroné (trop basse) qui commandait donc l'ordre de chauffe à plein régime des batteries. Celle ci sera bientôt remplacée. | | | | |
| 21-FEB | US45 | Perturbation UPS en US45 | Minor event | OPEN |
| Alarmes fonctionnement sur batteries sur ESS11/45, ESS12/45, ESS21/45 Suite autotest des UPS qui génère de plus des défauts PIC... Problème apparemment récurrent voir minor event du 15 fevrier du même intitulé. | | | | |