End Week 28 (July 17th 2011) – Status of Accelerators

TI (Jesper Nielsen)

TI summary week 28

http://wikis.cern.ch/display/TIOP/2011/07/18/TI+summary+week+28%2C+2011

LINAC (Rolf Wegner)

Linac2 was running well last week. We increased the gas flow in the source (from 3.7 to 3.9 ml/min) to reduce the number of missing pulses; now, only ~ 5 occur per day.

AD (Joao Carlos Oliveira)

--Monday--

Hard to recover from Sunday power cut. We were unable to give beam to users before 20h00.

When we left, at 20h00, we couldn't see digitized Schottky signal and had no acquisition of ejection transfo TFA7049

--Tuesday--

RF people repaired the Schottky. It was a power supply problem. The -24V was missing.

We did an access to check the transfo TFA7049. RF people found that the electronics of this transfo was burned.

--Wednesday--

Main QUAD problem. Solved by first line in 1/2 hour

--Thursday--

Access for installing new electronics for transfo TFA7049.

After accessing the machine the transfo was repaired but we start losing beam at the beginning of first ramp.

We checked everything but found no reason for this "lost".

--Friday--

We continued investigating the "lost".

At the end of the day we realized that vacuum was not good around injection septum. 4E-8 on VGI5303.

Vacuum piquet did sublimation to improve it. After sublimation we recovered good intensity.

--Saturday---

In the morning vacuum was bad again. Vacuum piquet come to do sublimation again. We decided to do it again Sunday morning.

In the afternoon, vacuum problem again. This time a rack controlling vacuum pumps was off. This created an interlock that closed some valves. We had to replace a fuse!

--Sunday--

In the morning, electron cooling problem. Solenoid was off, first line piquet had to come.

Vacuum piquet come to do sublimation.

--Monday--

Beginning of the afternoon, vacuum people are going to do a leak detection.

We have a leak on the septum region.

ISOLDE (Pascal Fernier)

HRS:

target 452 Uc2C run @ 30kv vis Rex pour Miniball; mesure avec krypton Kr assez satisfaisantes et avec Rn tres satisfaisantes.

Beaucoup de problemes sur Hrs et Rex ayant provoque de nombreuses interventions de faisceau mais le programme de physique a pu etre fait.

-- separateur HRS MAG60 : teslameter imprecise, il doit etre change ce matin

-- watch dog booster

-- arret chauffage cible HRS par interlock vide.

-- arret (x4) des alimentations en de la ligne BTS (entre Trap et Ebis)

-- arret alimentations Rex du a un debit d'eau insuffisant: mauvaise repartition des debit d'eau dans le network Rex, voir le problem cette semaine.

GPS :

Target # 452 Uc2C run a 50 kv pour Isotrap; setting-up dimanche pour Isotrap puis faisceau stable; aujourd'hui proton scan et yiels measurement

-- arret chauffage cible dimanche

Booster (Bettina Mikulec)

Last week was centered on the INCA deployment last Tuesday in the PSB, which went quite smoothly. No major problems were experienced, so we are since running under the new control system. The biggest hick-up concerned the tomoscope application (solved in the meanwhile) and several smaller issues that are either already solved or are being followed up. An issue also concerned ISOLDE devices that are controlled both from PSB and ISOLDE. Moreover, due to a not directly INCA-related release the previous day, several applications in the whole CERN complex didn’t work anymore (library missing); E. Roux solved that problem Tuesday afternoon.

Training is being organised by CO to teach the PSB operators and supervisors the usage of the new INCA tools.

General operational issues:

Last Monday the synchronisation jitter on ring 2, present during around 1 week, could finally be solved by the RF specialists. They had to use a different phase pickup as the usual one suffered most probably from 50 Hz noise.

Tuesday evening NORMHRS cycles following directly another NORMHRS cycle were lost in the line. Maybe also as a consequence of the INCA deployment, it was found that a wrong reference value was set for the bending magnet BTY.BHZ301.

On Thursday finally the problem with the injection trajectories into the PSB and missing OASIS/sampler signals of the PSB extraction pickups could be solved by our BI colleagues. The injection and extraction trajectory application will have to be adapted to the new hardware by J-F. Comblin upon his return from vacation.

On Saturday a bad vertical shape of beam coming from ring 4 into the PS has been observed. The piquet had to change and retune the active filter of the recombination septum BT4.SMV10.

Additional remarks:

Good progress has been made on the future digital beam control system by M-E. Angoletta and her colleagues. An MD setup is installed in the PSB cage where ring 4 can be controlled with the new system on a ppm basis.

PS (Gabriel Metral)

Semaine sans problème majeurs.

Plusieurs heures de pannes pour les faisceaux de la zone EST sont cette semaine. (fuite eau dans la zone EAST, problème de contrôle, ..)

Perte faisceaux a l'éjection et en TT2 du a des arrêts des VME qui contrôlent les équipement d'extraction. Une solution doit être trouvée rapidement (niveau de radiation important)

Un nouveau FIRMWARE a été installe sur le système de mesure d'orbit du PS. Des améliorations ont été apportées, mais plusieurs disfonctionnements reste encore a solutionner.

Lundi

Remise en route apres orage.

Les PFWs ne recevaient plus le signal bdot pour compensation du champ (X Genillon a explique que la liaison série qui remonte le signal de la génitrice vers les PFWs était interrompu). Voir pourquoi le signal Bdot simule n'est pas utilise ?

Importante fuite d'eau sur la zone EST. Lazzaroni a été amené a changer un joint sur un manifold dans le Hall (hors zone faisceau). Il faudra faire une surveillance de tous les serrages et de tous les joints de cette zone (next technical stop par l'équipe a Nicolas Roget

(4 h sans faisceaux pour la zone EST)

F16.QDE150 trouve a 35A sur CNGS au lieu de 135A => perte faisceau dans TT2.

Mardi

Le 'Online check' ne marche plus sur les PTIM-v

Mercredi

Problème avec YASP sur injection 42. On retrouve le kicker a 50KV (OP Issue en cour)

LHC 50 instable (une des cavités 200mhz pas remplacée après default)

Plusieurs élément de l'éjection 16 ne pulsent pas => reboot du DSC.

On trouve le F61.DHZ01 en local avec 50A (0 A dans nos référence)

Disfonctionnement du bump d'extraction 16-14 (fige sur 320A). PIPO change une carte de réception timing dans le G64 (1h15 de panne pour AD, TOF et CNGS)

Jeudi

DSO test pour LEIR (10 mn de coupure faisceaux)

Installation d'1 nouveau firmware pour l'Orbit PS. Tous les bunchs sont maintenant observables. L'observation de l'extraction reste encore a mettre au point (display d'1 trajectoire n'appartenant pas au même tour)

Vendredi

Le reboot a distance ne fonctionnait plus suite a une modification.

SMH57 ne remonte pas un état correct dans les conditions externes.

Samedi

DCPSej1 a nouveau HS =>Alarme radiation. Reboot de ce DSC (a 20H50 puis a 23H50)

DCPSEA2 alimetation du VME HS (changer par PICO a 1H12 dimanche matin)

(arret faisceaux EAST 1H30)

Dimanche

Instabilité observée sur LHC sur le palier basses énergie (à suivre)

AOB

Gain sur PS Orbit remis a 1e8 sur SFTPRO !!

Le Inhibit faisceaux prend environ 7BP pour reagir et couper le faisceau.

SPS (Karel Cornelis)

SPS started to take beam Monday at noon, once the PS had recovered from the thunderstorm glitch of the previous weekend. There were a few problems with power convertors in the north area in the beginning of the week, leading to short stops of the north area. The setting up of the LHC1 cycle, especially the blow up, continued while LHC was still recovering from the power glitch.

On Thursday morning all beams had to be stopped for three hours for an intervention on TRX4.

On Friday we had serious problems with a magnet in the H8 line which was overheating. The magnet experts changed a thermo switch but the problem came back. The line was put to the pulsed mode in order to reduce heat dissipation, but the users complained about stability. The problem disappeared during the weekend when the experiment started to run with lower energy secondary beam.

On Friday afternoon we had to stop the CNGS for a couple of hours in order to give access. A pump for water evacuation had to be switched on.

On Saturday there were problems with the RF loops. It looked like the problem we had some weeks ago with loose connections. The specialist came in, a suspect module was changed and the problem disappeared.

Also on Saturday, we had problems with NA access system. The piquet was called in for a communication problem. He changed a suspected cable.

LHC

LHC hit hard by power outage Sunday afternoon. Rocky recovery from this and technical stop. UFOs over the last weekend. Back in business Sunday with 1092 bunches per beam.

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