

End Week 24 (June 18th 2012) – Status of Accelerators

TI (Peter Sollander)

Rather quiet week for TI.

<http://wikis/display/TIOP/2012/06/12/TI+summary%2C+week+24+2012>

Day	Event																																										
Monday, June 11	<ul style="list-style-type: none"> 21:17 -- Electrical perturbation due to thunderstorms. Voltage dip of 10.13% for 75ms seen at CERN. SPS and LHC down 																																										
Tuesday, June 12th	<ul style="list-style-type: none"> CSA "forced" a MAD at around 3AM. LHC lost beam because of this. Call log shows no calls to the CSA from the CSA. The CSA procedure can be found here: https://edms.cern.ch/document/1004150/ <table border="1"> <thead> <tr> <th>Date</th> <th>Time of call</th> <th>Receiver Agent</th> <th>Message</th> <th>Time Out</th> <th>Response</th> <th>Duration</th> </tr> </thead> <tbody> <tr> <td>2012-06-12</td> <td>03:17:00:000</td> <td>TIOP-001</td> <td>TIOP-001</td> <td>30</td> <td>Yes</td> <td>00:00:11</td> </tr> <tr> <td>2012-06-12</td> <td>03:17:00:000</td> <td>TIOP-001</td> <td>TIOP-001</td> <td>30</td> <td>Yes</td> <td>00:00:11</td> </tr> <tr> <td>2012-06-12</td> <td>03:17:00:000</td> <td>TIOP-001</td> <td>TIOP-001</td> <td>30</td> <td>Yes</td> <td>00:00:11</td> </tr> <tr> <td>2012-06-12</td> <td>03:17:00:000</td> <td>TIOP-001</td> <td>TIOP-001</td> <td>30</td> <td>Yes</td> <td>00:00:11</td> </tr> <tr> <td>2012-06-12</td> <td>03:17:00:000</td> <td>TIOP-001</td> <td>TIOP-001</td> <td>30</td> <td>Yes</td> <td>00:00:11</td> </tr> </tbody> </table> <ul style="list-style-type: none"> Castor and SVM, EDMS DB, Accelerators database, General purpose et IT Infrastructure DOWN. All TI and CRYO logbook and tools down for an hour. Fixed by IT. 	Date	Time of call	Receiver Agent	Message	Time Out	Response	Duration	2012-06-12	03:17:00:000	TIOP-001	TIOP-001	30	Yes	00:00:11	2012-06-12	03:17:00:000	TIOP-001	TIOP-001	30	Yes	00:00:11	2012-06-12	03:17:00:000	TIOP-001	TIOP-001	30	Yes	00:00:11	2012-06-12	03:17:00:000	TIOP-001	TIOP-001	30	Yes	00:00:11	2012-06-12	03:17:00:000	TIOP-001	TIOP-001	30	Yes	00:00:11
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Wednesday, June 13	<ul style="list-style-type: none"> 07:06 -- Electrical perturbation due to short mono phase short circuit on 400kV network between Genissiat and Cornier (reason not known by EDF). Voltage dip of 17.24% for 75 ms see at CERN. All machines down. 																																										
Saturday, June 16	<ul style="list-style-type: none"> 00:40 -- LHC point 4 stable filter trips. Checked with LHC-OP and with piquet. The filter can be left off until Monday 																																										
Alarms																																											

Linacs (M. O’Neil)

Linac 2:

A quiet week. On Friday afternoon a tube in the Buncher 2 amplifier (LI.CBU02) had to be changed.

PS Booster (A. Findlay)

- A nice calm week for the PSB machine, with no significant down time to mention.
- There was an investigation into intensity fluctuations between bunches and batches for the LHC50A&B users, resulting in a LHC50A to the dump being installed preceding the operational LHC50A &B and the injection for the A user copied to the B. This improved the situation and we're keeping an eye on it.
- The main MD of the week was instability studies on rings 2 & 3 in all 3 planes in collaboration with Vladimir from GSI. The search was for head tail instabilities at C380 and C490, where they have already been noted, and the effect of intensity and/or bunch shape. This aim was to take data from the pick-ups in H&V (via the TFB system) and the WCM used as the wideband pick-up, and then store this for later analysis. We had a very successful week of MDs with significant amounts of data recorded for Vladimir and Sandra to analyze over the next few weeks. They will continue their studies on the PS next week.

ISOLDE (E. Siesling)

Very smooth running from the technical point of view. No real issues.

GPS:

GPS was running last week until Thursday morning with a new NaF salt target for target and ion source development. No users but yield tests for the inhouse target team.

Very little beam from the booster, max $1E13p$ and very few pulses in order not to damage this very fragile target.

STAGISO taken from PSB with bunch spacing between 16-20us. Important was to keep the sigma at target of the p-beam constant for the different intensities.

Thanks a lot to the Booster for adapting the proton beam accordingly each time.

GPS target changed to a Ta/W/Ir hot plasma target on Thursday. Setting up started immediately (50kV) to have the separator (ahead of schedule) ready for the weekend including p-scan on Friday for collections in the GLM and beam to LA1 as of Sunday-afternoon.

Collections ongoing today followed by yield checks.

P-beam from booster back to NORMGPS.

HRS:

In standby during the NaF tests at GPS. As of thursday Fr beams to the CRIS experiment (at 40kV). They stopped with radioactive on sunday-afternoon to start the cooldown period: Next target change on tuesday-afternoon.

No real technical issues:

During setting-up of GPS the target heating went down for no reason, restart ok and no problems since.

High intensity tests at $3.5E13ppp$ at GPS during the p-scan showed still some problems with ring 2 at the booster causing losses upstream at BLM210. To be looked into this week.

PS (J. Wozniak)

The week is very calm with virtually no longer interruptions.

On Monday and Tuesday there were small problems with the Booster due to various kicker & timing problems causing in total around 1h of downtime. In addition a faulty timing repeater caused 3h of problems from AD, SFTPRO and CNGS during the night. On Wednesday morning we had a small electrical glitch causing POPS trip and 1h of downtime for various resets.

During the night 10min of perturbations due to a missing TFID RF train.

On Friday we had no beam for 1h due to an intervention on the RF tube in Linac.

This weekend was rather stable with only few problems with 10MHz cavities and one POPS trip causing around 3h of downtime in total.

TOF is ahead of the schedule (around $7E18$ now, requested $6E18$ of integrated intensity, 21% more than planned), CNGS is catching up.

With the beam permit signed on Friday the Dirac beam has been set up during the weekend.

LEIR (S. Pasinelli)

Preparations ongoing, Friday the patrol was done.

Today tests of DSO.

AD (C. Oliveira)

C'était une semaine calme donc pas grand-chose à dire.

On a une cavité RF qui s'est mis plusieurs fois en faute et les front end des GEM moniteurs se bloquent un peu trop souvent - affaire à suivre. (Le GEM permet de voir la position et profile du faisceau dans la ligne d'extraction.)

SPS (D. Manglunki)

SPS delivered beam to the North Area, CNGS and the LHC.

Most beam stops were due to the injectors (Linac2 RF, PSB kickers, PS fast bumpers...).

The main event of the week was the global retuning of the longitudinal blow-up for the LHC. The origin is not quite clear, but on Thursday lots of batches were lost because the Beam Quality Monitor detected the bunch length was too long (by a few ps). After some adjustments in the PSB to equalise the rings, in the PS for the splittings, in spite of another blow-up retuning on Friday, and a slight increase of the BQM bunch length threshold, there were still ~50% of missed injections during the last LHC fillings.

Since Friday, there is a new filling scheme involving a single 6-bunch batch per LHC ring.

LHC (B. Holzer, M. Lamont)

Good performance.

- 51% of time in stable beams, i.e. 90 hours
- 1.35 fb⁻¹ total during the week
- 250 fb⁻¹ max. luminosity in single day.

Down time:

- MKI-8D waiting for cool down 13h40
- Injectors 6h30

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