End Week 22 (June 3rd 2012) – Status of Accelerators

TI (Jesper Nielsen)

http://wikis/display/TIOP/2012/06/04/TI+summary%2C+week+22+2012

Thursday, 31 Mai Electrical perturbation in the evening, which wasn't one! In fact the alarms seen in TI where caused by the power converters restarting. Logook EDF working on the network between Chamoisson et Bois-tollot early morning, nothing seen on our side.

Sunday, 3 June Electrical perturbation, stops the LHC. See major event. The event is confirmed by EDF / RTE as a shorcircuit on their network.

LINAC 2 (Rolf Wegner)

It was a very good week for Linac2, no major problems - just a reboot of "DLINSTIM" and "dlintraf" had to be made.

ISOLDE (Pascal Fernier)

HRS : end of the 72Kr run to Miniball via Rex machine - Good results and Miniball is happy

Friday target change with new target #475 Yo VD7 for the incoming run; heating stopped for unknown reason Sunday morning; problem will be checked Monday morning; setup of the HRS machine will be done Monday.

GPS : target change done Thursday with new target #476ZrO; unfortunately du to a target heating mismatch the target line break; old #446 target put again on the front-end, a new target will be placed Monday afternoon; physic could run during the week-end.

Booster (Jose-Luis Sanchez Alvarez)

The PSB had an excellent week, with only a major issue at the end of the week.

Tuesday, piquet EPC repaired the BR3.XSK2L4 which pulsed with wrong value. Wednesday, piquet CO changed DPSBBLM power supply. Friday night Isolde requested the GPS beam and was limit to 2500E10 (losses on the BTY.MBL201). Saturday, full intensity for ISOLDE, we managed to reduce the losses by changing smoothly the quadrupole BTY.QDE151 (5‰). Sunday afternoon, piquet vacuum changed the BR.VPI15L2 power supply. Monday morning, no protons available during 3h30, a HV cable of the BI3.SDISPR was broken.

AD (Bertrand Lefort)

FAULTS					
Date	Start/ Duration	Symptom	System	Resolved	Comment
29/05/2012	07:00/15'	No Injection	DI.QFO6080	YES but not explained	DI.QFO6080 Went OFF 2 times. FL check it but without any further information nothing can be done.
29/05/2012	15:00/--:--	XGEM not responsive.	XGEM45	YES.	XGEM45 on fault. GAS problem. The Gas circuit pressure has been tuned. Problem solved.
30/05/2012	19:00/--:--	ASACUSA see the beam position fluctuating	could be DR.QUAD.TRIM5	Yes but not explained	The Noise on QTRIM5 is higher than usual. Last time it happens, it was due to building 366 air conditioner that was failing. I opened the building door to let the air flow (see next table).
31/05/2012	morning	ASACUSA trapping efficiency is low	N/A	N/A	ASACUSA says that the trapping efficiency is 6 times lower than usual. It could come from a wrong ejection energy. We need to check the energy with the orbit measurement system... but...
31/05/2012	17:00/--:--	No orbit measured on vertical plan.	AD orbit measurement system	Partially.	AD orbit measurement system was not working on the Vertical plan. Specialist came and fixed a failing amplifier. The AD orbit is now working but on pick-up is still failling: the head amplifier of the Hor #51 is out of range. A machine access is needed for its replacement (planned on Monday during MD - 15' intervention).

Machine Tuning & General Comments			
Date	Start/ Duration	Sub-System	Comment
29/05/2012	Afternoon	ASACUSA Ejection Line	Optic Tuning taking into account the fringe fields of DE0.BHZ18 and DE1.BHZ10 and Beam Steering.
30/05/2012	2 days	DR.QUAD.TRIM5	Start monitoring of the power supply noise. It seems that OASIS has some sampling issues. I switched to "ADE Main" sampling program. Since then, the noise seems OK even though there is a possible relation between the noise and the outside temperature.

PS (Ana Guerrero Ollacarizqueta)

This week minor issues caused several beam stops amounting to approximately 7h.

As two weeks ago a faulty cable in the electrostatic septum PE.SEH23 was the source of a 2h beam stop for EAST beams and 1h30 for all beams to carry out the intervention.

An earth problem in the power supply of the 8-loop (PR.W8L) was the cause of a 2h beam stop. The problem was found in the power converter and not an earth leak as feared initially.

There was another 1h30 beam stop due to a faulty CPU in the B-train generation front-end.

A cooling problem in building 365 generated a ventilation problem in the power converter of one of the triplet quadrupoles (PR.QTRJ-TR-B) which lead to 1h beam stop. Finally the beam was stopped 1h due to a quadrupole redresser fault (PR.RQF05-39)

During all Sunday CNGS radiation levels raised and lowered in large amounts without explanation. The issue is still under investigation.

The campaign of systematic emittance measurement for the production LHC beam has already started in PS.

SPS (Yannis Papaphilippou)

The week started with the reparation of the ventilation unit of the CNGS target, which prevented the CNGS beam delivery since last Saturday. Although the unit was not completely repaired, two adjacent units can cover the area. The SPS operation until the weekend was rather smooth. Two noticeable highlights are the successful extraction of an LHC single bunch with the Q20 optics up to the TEDs of TI2 and TI8 lines (Tuesday) and the first successful experiment of HiRadMat with a Tungsten powder target sample (Thursday). On Saturday afternoon, the beams were cut as all main sextupole circuits tripped with an internal interlock fault. The magnet protection team changed the interlock rack by its spare, without solving the issue. A lengthy access and investigation continued through the night by the magnet expert for finding the fault in the magnet circuits around the ring, albeit without success. In the early morning the MPE team proceeded to a careful threshold recalibration of the interlock cards on the spare rack. This finally solved the problem, although its actual nature is not fully understood.

LHC

Mixed week – some nice long fills but a lot of down time to miscellaneous problems

More details:

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