End Week 34 (August 23rd) – Status of Accelerators

Summary

Overall – OK.

ISOLDE	It has been an overall calm week week with minor issues, the machine has been running fine.
LINACS	OK
AD	Continues well.
PSB	Steady as she goes.
PS	OK – but variety of faults through the week. No beam to SPS from Sunday – problem with magnet at end of TT2 – problem fixed Monday morning
SPS	Good until Sunday – no beam from PS until Monday morning
TI **(Peter Sollander)**	• Tuesday, 18/8: Emergency stop UX85. Faulty emergency stop button • Wednesday, 19/8: LHC8 machine 18kV cut, affecting LHCb, Cryo, services • Friday, 21/8: Cooling water temperature high for nTOF.
LEIR & Ions	Looking good. Commissioning progressing on MD cycle in SPS.

PS (Yannis Papaphilippou & Gabriel Metral)

Major events of the week: an unexplained incident on Thursday where machine settings were deleted and a yet not resolved problem with a F16 magnet cutting the beams delivered to the SPS. Delivered super-cycles of 41BP and 34.

- On Tuesday morning, an RF specialist requested an access in order to change the relay gaps the 10MHz cavity 91. All beams were stopped for 30min (20min cool-down and 10min intervention).

- During Wednesday afternoon, the video signal on door 115 (DIRAC access in the EAST zone) was lost during the time that a person was exciting the zone. In this respect, the zone had to be patrolled again before giving back the beam to users.

- On Wednesday afternoon, it was requested to provide the SPS with the Multi-turn extracted beams for testing during the weekend. In this respect, the offsets between the two machines had to be changed in the SFTPRO and CNGS beams, triggering changes in the magnetic cycles and in a long list of timings and settings (performed during Thursday). Unfortunately, and for a yet unknown reason, on Thursday afternoon, many files of /acc/oper were deleted including sub-directories like /acc/oper/data containing all the magnetic cycles, and configuration files for the OP display, and several other applications. During the investigation by CO and the restoration of the files from the back-up of the night before, all beams were cut for around 1H, as the machine could not be safely controlled.

- EAST zone beams were cut for around 1.5H during the night due to a non-resettable fault in a quadrupole of the F61 line (F61S.QFO01). The First Line intervened and changed a broken ventilator.

- TOF beam cut for 3H during Thursday night due to a water-cooling problem which was handled by the TI crew and solved by the piquet water.

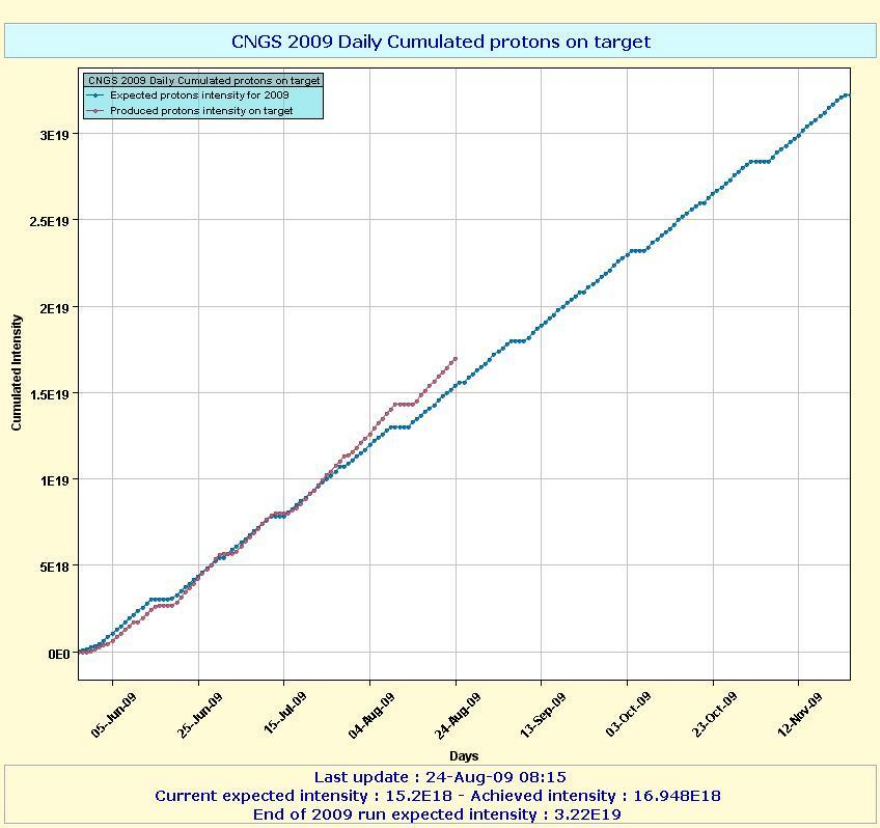
- On Saturday morning, two of the modules of kicker KFA45 were on fault causing losses and radiation alarms in the CNGS beam. The specialist was called and identified the problem to a non-executed high voltage trigger.

- On Sunday afternoon and after having observed losses in TT2, a horizontal dipole (BHZ377) was found with an external fault. The piquet First Line was called and after long investigations was unable to solve the problem. During this time, the NTOF beam was cut as the tests on this magnets were found to disturb the delivered beam. As the equipment specialist was unreachable, it was decided to switch off the power supply and wait until next morning, without delivering any beam to the SPS but giving back the beam to the NTOF users.

SPS (Karel Cornelis)

There were no major perturbations to the physics beams in the SPS during the week. The main activity in the SPS was the setting up of the ion beam on a parallel MD cycle. For this, new RF control modules are being commissioned. By the end of the week the ion beam could be captured and the orbit and tune measurements were made to work.

The weekend saw two perturbations: one on Friday evening with a ROCS-fesa server giving spurious interlocks and one on Sunday noon from the BHZ magnet supply in the PS-SPS transfer line. Because of this, no beam was sent by the PS since yesterday and the problem is still on-going.



ISOLDE (Erwin Siesling)

It has been an overall calm week week with minor issues, the machine has been running fine.

GPS:

Was running with a CaO target for the IS476 experiment at the LA1 line.

To obtain a higher beam intensity at the experiment it was decided with RP (T. Ottto) that we could exceptionally run with a higher max proton-current, 2.3uA instead of the normal 2uA. Release of activated air was under all circumstances kept below the max 600kBq/m3.

On wednesday-night the target heating went off due to a broken tri-volt power-supply for the controls of it. Fixed after Firts-Line intevention. Surprisingly enough this did not disturb the experiment since the radioactive noble gasses (Ar) isotopes came out anyway.

The GPs run stopped on friday-morning. New target will be put on today.

HRS:

Sharing the central beam-line with GPS. The setting-up for the REX Miniball experiment was done during the week and the REX run started on friday-morning.

This weekend some minor issues: The HRS separator magnet MAG90 went down once, the dsc DISOPOW needed a reboot once, the IHS at REX went down once which was restarted with help from the REX specialist (F. Wenander) by telephone, this morning the 7 Gap went down once which neede restarting.

The Miniball users are happily taking beam.

Other issues:

Vacuum leak test at the MSW (E4) section: No significant leak found. (K. Weiss).

QP arrays file structure lost: On thursday-afternoon due to an unknown issue at PS the file structure for /java/data/ got lost blocking us from recuperating any quadrupole settings form the archives.

Booster (Giovanni Rumolo)

It's been a quiet week for the PSB. On Friday we had problems on Ring

3 because of some losses appearing about 100 ms after injection on all the users. The problem was tracked back to be a transverse feedback

(TFB) malfunctioning. Friday night and Saturday morning the horizontal TFB was switched off, and this made the low intensity users stable.

Only CNGS was unstable (the only current high intensity user).

However, a compromise was found during the night to run Ring 3 on CNGS stably, delivering only about 5-10% less than the nominal intensity.

The problem was fixed by Alan Findlay on Saturday morning (it was a delay that had been accidentally changed, because it had been believed to affect the vertical plane alone).

AD (Tommy Eriksson)

AD has been running well except for:

- Strange intermittent behavior of various ring power converters causing beam losses/blowups on Tuesday pm. Traced to high CPU load in a DSC.

- Broken electron cooling cathode filament interface during Fri/Sat night probably caused by faulty A/C in the Faraday cage - fixed with the help of TI, FL and e-cool specialist (5 hours or so downtime)

- The usual dose of power supply problems (FL called several times) and PS downtime.

LHC

QPS: status report given. Global testing set-up described.

S12: powering starting today

S23: Cool-down – arc around 70 K

S34: Cool-down – remaining to be done: spring installation, nQPS, etc. – no access at the moment.

S45: should fill with liquid He next week

S56: cold

S67: warm-up to fix bus-bar short – misc to fix in meantime

S78: almost cold

S81: flexible to fix – finished by Wednesday, ELQA, some misc work,