

Accelerator Complex Status

End week 48 (Monday 3rd December 2018)

TI (R. Ledru)

Details:

<https://wikis.cern.ch/display/TIOP/2018/11/30/TI+week+summary%2C+week+48>

LINAC3 (D. Kuchler):

We had a very good week this week. On Thursday the ovens were refilled. Downtime 8.5 hours. This morning there were some small intensity issues which were first thought to be the source, but in the end it was a stripper issue. Otherwise the whole week intensities 30-33 μ A.

LINAC4 (B. Mikulec):

Very busy week for Linac4 and good availability of 98.3%. Most of the week was dedicated to RF MDs to obtain all the necessary data to prepare LS2, and some time was also spent to further commission the laser emittance meter. The Kalman filter was tested for each cavity type as well as power margins for certain klystrons. Reference measurements are done every shift and issues with ppm and multi-destination operation being followed up. Dense program for the last week of operation this year...

LEIR (S. Hirlander):

ISOLDE (J. Rodriguez):

GPS:

- Tuesday:
 - Target and laser teams worked on ionisation of Ti
- Wednesday:
 - Target and laser teams worked on ionisation of Ti
 - Miguel transported the Ti beam to the REX-TRAP and REX-EBIS to measure the transmission/efficiency for $^{47}\text{Ti}^{13+}$
 - Target line failed at ~midnight
- Friday:
 - Used target (#513) installed

HRS: CRIS taking several $^{22}\text{Ra}^{19}\text{F}$ beams during most of the week

REX/HIE ISOLDE: Machine Studies during most of the week

Issues during the week:

- Lost HRS separators controls. Required a FEC reboot to recover
- HT trip

PS (K. Hanke):

A reasonably good week for the PS.

On Monday there were 2h down time due to the SMH57 power supply, first the ABT experts were called in and then the EPC piquet who managed to re-start the power supply.

On Wednesday there was a planned intervention on the timings, after which LEIR was in a perturbed state for about 2 ½ h. Also on Wednesday there were some issues which KFA71 which kept on tripping, the piquet did a reboot.

On Thursday there was the planned Linac3 source re-fill starting at about 6 a.m. and lasting until 3 p.m. We took advantage of the stop and gave access for RF for an intervention on the C80 fast tuner. In the evening the KFA71 started tripping again, the piquet came in but could not solve the issue so the OP team kept on resetting during the night. The next day Jan Schipper managed to solve the problem permanently.

The weekend was very quiet until Sunday evening when the PFW tripped. The EPC piquet and some other experts intervened and changed the power supply for a spare (filter had burnt); 4:26 down time.

On Monday morning CV shut down the cooling plant of the East Area, which also supplies the PFW, in order to start LS2 work. This took out the PS which is still supposed to run for one more week. CV put in place a workaround, to supply the PFW from the centre-anneau station.

SPS (V. Kain):

SPS week 48 was a successful final week for the LHC ions and the 380Z GeV run for NA. The availability was 94 % with the main faults coming from the injector complex (PS and LINAC3 during Sunday night) and also about 1 h of downtime due to instabilities of the BPM front ends in the SPS.

A successful UA9 run in COAST took place on Monday for 24 h with 4 NOMINAL injections. We re-checked the 100 ns, 4 bunch, as well as the EARLY beam single injection for various LHC MDs and vdM scans which took place on Tuesday, Thursday and Sunday. The 75 ns beam was tried out with the new transition crossing hardware in the PS and on Friday a 6 bunch, 100 ns spacing, version of the NOMINAL beam was checked in the SPS to prepare for a possible first beam with slip stacking post-LS2. All was successful. As another test for post-LS2

operation the SPS RF system was switched to the new B-train for a short test period. No difference could be measured.

The oven re-fill took 8h 55 minutes on Thursday.

Friday night AWAKE took the PSI 81+ beam (2 bunches) for the spectrometer calibration. The AWAKE team was very happy with the beam and the reproducibility. The setting up of this beam was more difficult than expected due to various controls obstacles (AWAKE destination not possible in LEIR, extraction pre-pulse coming out too late due to settings management issue).

Almost all week last crystal studies were carried out on the SFTION cycle. The quality of the BLM reading in LSS2 was sufficiently good with high gain despite the low intensity extracted. For the crystal studies the slow extraction was switched to COSE on Friday without any issues. COSE was kept over the weekend.

Due to the almost 6 h lost in the night from Sunday to Monday the switch to the lower energy (14.5A GeV/c) for NA will only start at 10h00 on Monday, 3rd of December.

LHC (J. Wenninger):

Ion operation was interrupted for 12 hours on Tuesday for a crystal MD. On Thursday the source was refilled and the ion beam was only interrupted for around 8 hours. Most of this time could be bridged with a 100 ns spacing fill for ALICE vdms and a CMS length scale calibration.

The last physics fill of Run 2 was dumped Sunday 2nd December at 17:10. The BPFQ quench test could not be performed due to issues along the injection chain (LINAC3, PS). Beam came back too late for the test.