

Accelerator complex status

End week 27 (Sunday 6th July 2014)

TI (Jesper Nielsen)

<https://wikis/display/TIOP/2014/07/07/TI+Summary+week+26%2C+2014>

LINAC2:

Only minor problems, nearly normal operation

LINAC3:

Wednesday afternoon beam was ready to send to LEIR

LEIR:

The visit platform is closed until the radiation measurements confirm that the dose rate are low enough to reopen it again. The beam permit was signed on Wednesday and the first beam was injected. The remainder of the week was dedicated to solving issues of different kind that were encountered.

PSB

Throughout the week work continued by the LL RF and OP teams to bring up the intensity and to optimise our beams. On request of the PS the following beams have been prepared throughout the week: EAST, TOF, 'false' SFTPRO (h1), ISOLDE, LHCINDIV. Also an ongoing activity is training of our new operators. Tuesday 1 July in the morning access was given (synchronised with PS alignment) to fix a number of issues that had accumulated in the PSB (alignment, cabling, BLMs, other BI issues, ...). When re-starting the power piquet was needed to bring the MPS back on.

Numerous BI issues were addressed, the list is getting shorter. For example there are still a lot of BLMs not working (access this morning). Other issues are being addressed as they arise, but nothing dramatic. Monday morning beam stop for access (alignment of PS magnets in the SY and fix faulty BLMs in the PSB)

ISOLDE (Pascal Fernier)

GPS

Target change on Tuesday, new target #506. This week the beam was available for Rillis studies.

Problems: we are waiting for the Faraday cup FC20 to be repaired and reinstalled on the front-end. Julien Parra Lopez changed the power distribution crate used for Line Heating. Problems to open / close clamps and shutters of the target --> calibration by C.Mitifiot

HRS

Stable beam from the front-end until Rfq.

Rfq : we measured a low capacitance (60 pF instead of the 240pF) and opened the Rfq --> short circuit on electrode RFX09 --> repaired. We hope to test the Rfq with the beam on Tuesday 08. Next Wednesday: intervention inside Faraday cage to check turbo pump 12.

Problems : Turbo pump on the RFQ is repaired. He injection on the Rfq is now working in local but not in remote.

PS (Rende Steerenberg)

Last week was mainly dedicated to the beam based realignment and further setting up of the different RF beam controls and cycles for operational beams.

Following the orbit measurement and simulations made on Monday 9 magnets we moved (6 in horizontal and 3 in vertical) to optimise the orbit. The horizontal correction was according to the predictions. However, the vertical orbit showed an improvement in part of the machine whereas another part showed large orbit excursions.

After detailed investigation it turned out that the orbit data from the orbit measurement system was shifted, due to the introduction of new BPMs.

On Friday the voluntary displacements for the vertical plane we removed and new orbits were measured and simulated. Today two magnets will be moved to finally correct the vertical orbit.

Also substantial effort went into the wire scanners in order to make them operationally available.

The newly installed Finemet cavity seem to suffer from a beam induced resonance at 40 MHz, even when the gap relays are closed. Further investigation is ongoing.

SPS (Karel Cornelis)

The cold check is progressing well with the co-activity between the powering tests, cold checkout activities and the numerous access still required. Magnet polarity checks progress well and some error were found that will be corrected. Last week aluminium pieces were found in the beam dump that might come from one of the aluminium blocks in the dumps that is composed of graphite, aluminium and copper. This afternoon there will be a meeting on the issue. Aperture measurement made last year did not give any sign of presence of these aluminium pieces in the beam path. This afternoon, pending approval in the meeting, an endoscopy should confirm if those pieces come from the suspected aluminium blocks. Installing a spare dump will involve substantial work and a delay of 6 to 8 weeks to the restart. Besides that it will also cause outgassing issues, in particular for higher intensity and LHC beams. However, this is too early to announce any delay, pending the study.

Scheduling:

The 2014 injector schedule has been updated to versions 1,6 with new dates for the start of physics, following the delays announced for ISOLDE and nTOF.

The new dates are:

- ISOLDE: 24 July beam to target and physics start on 1 August
- nTOF: 24 July beam to target and physics start on 1 August
- AD: still 1 August beam to target and physics on 19 August
- The East Area: Beam on target 10 July and start of Physics 15 July (North branches are still on schedule, new irradiation facility will be later)

