# Accelerator complex status

## End week 21 (Sunday 25th May 2014)

## TI (Jesper Nielsen)

The summary of the week in TI:

https://wikis/display/TIOP/2014/05/20/TI+summary+week+21%2C+2014

## Booster (Jocelyn Tan)

### IN SHORT

- BI.SMH: after the second vacuum joint replacement of the top door, the leak rate has stabilised to 9.5x10-9 mbarl/s, and application of the vacuum seal, there was no evidence of leak. Electrical connection and water cooling went well too. On Thursday both BI.SMH and BE.SMH were successfully pulsed at nominal current.
- Some issues with OASIS: signals with inverted polarity, or too high amplitudes.
- Injection and extraction timings adjusted for the pulsed magnets
- FGC : checked
- Friday: DSO tests started. To be continued Monday
- Saturday : The MPS dropped at the end of the night shift, and could not be restarted. It was decided to leave it till Monday, as it the situation did not prevent other on-going tests.

### PSB RF cavities status

Thing are working (mostly) and the specialist is waiting on InCA people to create the interface with the operators (working set, knob). Some remaining problems with the read back from the cavities are being solved.

### BI status

- Injection trajectory (new Linac4-based system): OK, commissioning with beam is on-going.
- BLM: All HV and signal cables have been checked. No maintenance work on the electronic (integrator). All ACEMs from the ring and the transfer line in the booster hall have been calibrated. The ACEMs in ISOLDE where not included.
- ORBIT: OK hardware, FESA should be OK too as it's a copy of the PS system. Some phase table files, specific per beam user, will be done during beam set-up.
- BBQ: preparation is on-going. It will be ready for the 1st beam injection. One can get the tune on a turn by turn basis => It proposed to suppress the half turn PU.
- DCCT: OK, acquisition chain upgraded (but the Head amplifier, foreseen for LS2), new FESA class and ADC.
- FBCT: OK
- The PS tomoscope has been successfully tested.
- SEM: OK from Linac2 to PSB extraction lines, including BTY.
- BTV: OK, Hardware and FESA class-wise
- Ejection trajectory: cold check out on-going. It will be ready for the first extractions.

## IN DETAIL

### Tuesday 20th

BI.SMH: after the second vacuum joint replacement of the top door, the leak rate has stabilised to 9.5x10-9 mbarl/s, and application of the vacuum seal, there was no evidence of leak. Electrical connection and water cooling went well too. On Thursday both BI.SMH and BE.SMH were successfully pulsed at nominal current.

Setting-up of the new injection timings for the pulsed elements: BIW.W8 and BIX.W2 are replaced by a unique BIX.WCLK which triggers 8ms before C275. The new settings have propagated to all users.

### Wednesday 21st

- Commissioning BEr.KFA14L1 on OASIS Viewer with the operation signal for the USER SFTPRO1
- BT.QNO50: the PIPO has solved the triple PPM issue (3 possible values depending on the destiantion)
- No communication with FGC3 for multipoles. INCA support has solved the pbl.
- The interlock test (Beam Dump Interlock) of FAN of Dump finished in the BOOSTER. It works.
- Problem with BI2.DVT70 seems to be solved. Now it pulses with other Dipoles at the same time.
- BI3.DVT70: The noisy signal seen on OASIS was gone after the replacement of an aux Power supply.
- New injection optics uploaded into database.
- BI.DVT30 and BI.DVT40 removed from YASP correctors list.
- The Ejection sequence is correctly set (3-4-2-1). OASIS specialist was in formed that the BE1.KFA14L1 and BE3.KFA14L1 cables have been swapped.

### Thursday 22nd

- BT1.SMV10-AS, BT2.SMV20-AS, BT4.SMV10-AS. All are OK
- The BT4.BVT10-AS signal on OASIS VIEWER does not react to any change in knob. moreover, it seems to have inverted polarity
- Checking BT.QNO10, BT.QNO20, BT.QNO30 ==> OK
- The double PPM works good
- Checking BT2.BVT20 ==> OK
- Checking BT.DVT60. It's not possible de test at the MAX value in CCV. If we submit a value after 19A (max is 20), It will be in fault. It's the same fault for the minus value.
- Checking BT.DVT50. It's not possible de test at the MAX value in CCV. If we submit a value after 19,80A (max is 20), It will be in fault. It's the same fault for the minus value.
- Checking BT2.DVT40-AS and BT3.DVT40-AS in their limits ==> All is OK

New Digital LL Update:

A major step was made today, we now have all 4 rings following the B Train and generating the C02, C04 & C16 signals. This has been set up for SFTPRO & MD6, but we're not yet distributing these trains to the users (still using the old system for that) until we've tested all the distribution path.

The LL Development team. Cavity Control Update: The FESA classes have almost been completed

### Friday 23rd

- BE.SMH15L1 in remote control but it shows ERROR status when we put it on: to be followed up
- Patrol of SwitchYard  and PS ring.
- DSO tests started. To be continued Monday
- Adjustment timings distributor Done and copy to all users.

### Saturday 24th

- The injection kickers seen on OASIS looked saturated.
- The MPS dropped at the end of the night shift, and could not be restarted. It was decided to leave it till Monday, as it the situation did not prevent other on-going tests.
- The PS tomoscope has been successfully tested.

## PS (Rende Steerenberg)

The PS switchyard was patrolled on Friday and the responsibility for the PS was transferred from EN to BE on Friday evening, when we also started the cold checkout, which until now did not show any major issues. Today the final signatures need to be collected before being able to send the LINAC beam into the measurement lines, situated int he PS switchyard.

The fencing outside, on top of the PSB and the PS< is still a topic that needs to be treated urgently, as it has not been fully reinstalled following the work done on route Goward and the area above SMH16. This wil be taken up today, but needs to be put in place urgently, otherwise it might delay the beam in PSB foreseen for Monday 02/06 and this week is a short work week.

Today the DSO test of the PS-Ring, TT2 and TOF primary will be done and we hope to collect all necessary signatures for the beam permits too.