

Accelerator Complex Status

End week 6 (Monday 14 February 2022)

Technical Infrastructure (Ronan Ledru):

Statistics:

- Close to 7'000 alarms.
- 717 phone calls (519 incoming, 198 outgoing).
- 103 ODM created.

Events worth mentioning:

- Thu. 10.02, Level 3 evacuations alarms triggered during the SPS emergency electrical test. The tunnel ventilations were stopped by the fire dampers, the sumps interlocked, the elevator of BA3 broke down. The fire detection team suspects the system's new air suction pumps.
- Sun. 13.02, Trip of cryogenic plants in LHC4 (QSCCA-C1) following auxiliary fault on 220V feeding compressor main supply EKD212/4U.

Details: <https://wikis.cern.ch/display/TIOP/2022/02/14/TI+week+summary%2C+Week+6>

LINAC 4 (Piotr Skowronski)

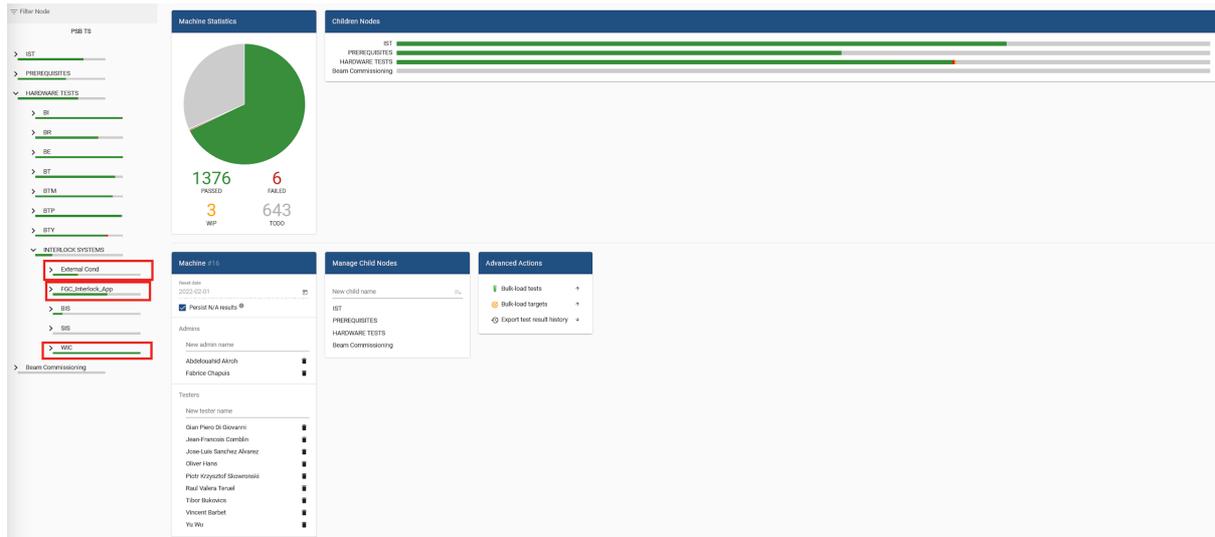
Beam commissioning progresses according to the plan and without major issues. On Thursday morning we stopped to allow for software updates (firmware in modulators, FGC gateways and BCT FESA class). On Friday a power supply for trajectory corrector occasionally pulsed with setting of previous cycle: restart of the power supply fixed the problem.

PS Booster (Abdel Akroh):

The PS Booster is in the hardware commissioning phase, which started on 07/02 (2 shift AM-PM)

- Very well moving forward on the PSB checklist (~70% done and OK)
- Nearly all the power converters have been recommissioned. Only the operational Multipoles remain to be tested.
- POPS-B tests will resume this week (SY-EPC) until Friday 18/02
- SY-EPC has taken over all the auxiliary power converter for fine tuning also till 18/02
- BR.QCD/QCF (Q-Strips) polarity check on going today (14/02)
- BR14.TBH15L1, BR14.TBH16L2, BR23.TBH15L1, BR23.TBH16L2 polarity check today as well (14/02)
- BTM.QNO10 polarity check today (14/02)
- The WIC system was fully tested end of last week.

Checklist progress:



ISOLDE (Miguel Lozano):

It has been a quite productive week at Isolde.

Both frontends are operational and a set of reference setups have been created for GLM,GHM,LA1,LA2 and RC4 at 60kV.

Some target area ventilation tests took place by the end of the week.

No major issues found and we will continue with the recommissioning this week according to the schedule.

PS (Oliver Hans):

So far, everything going according to plan

- Power Converter and Magnet
 - Monday: successful High Voltage Test for W8L.
 - Monday: EPC has started commissioning of all PCs in building 251, 269, 355, 365, and 368
 - Tuesday/Wednesday: POPS fully commissioned and transferred to OP
 - Thursday/Friday: Magnet tests including audio/visual inspection, polarity check for modified circuits.
 - **QSK 57**, low energy corrector skew quadrupole in SS57, has found to be **damaged** and needs to be replaced. Since impact for beam performances is negligible and the intervention is more complicated and will take two days, it has been agreed to postpone this to the next YETS.
 - Friday: Tests including polarity for F61/F62 magnets (EAST line inside PS building)
- ABT
 - All septa have been tested and transferred to OP, except SMH57 (EIS for EA1). This will be done after EA DSO test (Monday 14/07)
 - All kickers and fast bumps have been tested and transferred to OP, except KFA71. ABT has technical issues. For OP this is at the moment not critical (but needs a close follow-up)
- Beam Instrumentation
 - Minor technical issues has been detected for:
 - BGI, intervention scheduled for Monday 14/02.
 - WireScanner, intervention scheduled for Monday 14/02
 - BPM, intervention scheduled for Monday 14/02
 - BLM has been commissioned. First observation shows an improved noise signal for SWY BLMs. Detail diagnostic is ongoing.
- RF
 - HL 10 MHz: Cavities pulsing and tuning ongoing. No problems to report.

- LL: 10 MHz: phasing soon and no problems to report
- HL 20/40/80 MHz: Cavities are ready (apart from a minor measurement for 40-77). No problems to report.
- LL 40/80:MHz: Decision to be taken with high frequency control to use (old system or partly commissioned system). But no influence for beam start-up.
- HL 200MHz: Amplifier and control are commissioned.
- LL 200MHz: Firsts positives attempts to pulse the cavities. Commissioning ongoing, but no problems to report.
- Dry Run
 - M-TOF cycle: POPS pulsing with M-TOF cycle. Cycle has been adapted to 2GeV injection energy.

In general: Commissioning is in full swing. Activities in CCC will increase as more system will become available for OP. Next week will be concentrated to check list and BI equipment. One magnet has been found damaged and will be replaced in next YETS. KFA71 needs a closer follow-up (before it becomes critical).

PS - East Area ():

YETS.

AD - ELENA (Laurette Ponce):

AD:

- YETS activities on-going with the magnet refurbishment on the critical path. The end of bake-out is planned for 10/03 and the DSO test on the 11/03. Therefore, no contingency for tests of EIS machine before the DSO tests.

ELENA:

- Vacuum leak on the injection kicker is fixed. Bake out postponed to next week after the stop of cooling water.
- The cooling water stop initially planned for 1 week (14/02 to 18/02) has been reduced to one day (Monday 14/02) to allow the start LNI bake out
- DSO tests postponed to 28/02
- Due to test on the kicker feedthrough, the acceptance tests of the 3 profiles monitors to be installed for STEP and ASACUSA are delayed by 3 weeks. Installation of the SEM for STEP is also now on the critical path for the ion source operation restart.

SPS ():

Hardware commissioning is progressing well EPC is testing the individual stations of the mains.

SPS North Area ():

YETS.

AWAKE ():

YETS.

LINAC 3 ():

YETS.

LEIR ():

YETS .

CLEAR ():

YETS.

LHC ():

S12	S23	S34	S45	S56	S67	S78	S81
Phase 1	Cold	Phase 1	Phase 1	Phase 1	Cold	Cold	Cold
77 / 11950 A	0 / 0 A	71 / 11950 A	87 / 11950 A	76 / 11600 A	62 / 11600 A	21 / 11600 A	55 / 11600

The LHC is cold again, all sectors at 1.9K. Phase 1 tests started half of the machine. Powering DSO tests on Friday 11th. Responsibility for the machine will be handed over to OP on Tue. 15 Feb.