

Accelerator Complex Status

End week 43 (Monday 26 October 2020)

Technical Infrastructure (R. Ledru):

- A rather good week for TI
- Statistics:
 - Slightly more than 11'000 alarms
 - 1073 phone calls (784 incoming, 289 outgoing)
 - 161 ODM created
- Events worth mentioning:
 - On Monday 19.10, the BEQ1 SPS compensator was switched on.
 - On Thursday 22.10, the LHC compensator was switched on. Also on Thursday around 16:00 there was an evacuation in B269 and TT2 due to fire detection alarms (multiple sensors). Firefighters from France came to CERN because of a lack of manpower. After a long investigation this has been declared as false alarms as nothing has been found.
 - On Friday the Meyrin ME59 compensator was switched on.
- Upcoming:
 - Mon. 26.10 until Tue. 27.10: Lock-out of the 400 kV of the BE station. CERN is presently powered from BE2.
 - Wed. 28.10: Switch of 400 kV from BE2 to BE for the whole of CERN and lock-out of BE2 to treat some non-conformities. The switch carries a potential, but low, risk of a power cut.
 - Wed. 28.10 until Thu. 29.10: Lock-out of the 18 kV cable that powers the machine network of LHC5 from LHC6. This is due to road works outside CERN. The machine network for LHC5 will be coupled to the general services. Just to note that also the optical fibres pass in the same area as the road works.
- Details:
<https://wikis.cern.ch/display/TIOP/2020/10/25/TI+week+summary%2C+Week+43>

LINAC 4 (B. Mikulec):

- Following the Linac4 re-phasing, measurements (beam flight time to debuncher) and bending settings confirm that the Linac4 energy is now closer to the design value of 160.7 MeV (final confirmation with PSB...). The power of the individual cavities is well balanced.
- Profile measurements were performed for the 3 different optics; a few discrepancies wrt. the ABP reference profiles were noted and have to be discussed with ABP.
- Several corrections or/and improvements throughout the week on the energy spread Makerule, beam instrumentation (watchdog, wire scanners etc.) and the Central Timing.
- Beam operation had to be interrupted on several occasions due to PSB and Switchyard access requests and ME59 EPC interventions.

PS Booster (B. Mikulec):

Throughout the week:

- Hardware tests checklist follow-up; 50% done
- Last tests related to POPS-B commissioning before the hand-over to BE-OP
- Distributor: test finalization and Oasis signal configuration for each stage
- Many Dry runs (see below)

To be noted:

- Water leak on BTM.QNO05; the magnet has to be exchanged during w47/48; TE-VSC will prepare in parallel a vacuum chamber, as there is no spare (too many different configurations).

Additional points to mention:

- Dry runs and works on kickers; timings and OASIS signal configuration to be followed up
- Dry run and training on the B-Train measurement
- BE.BSW polarity checks OK
- ISOLDE beam stopper tested (EIS-test mode)
- Dry runs with old and new transverse feedback system
- Discussion on injection timings of Q-Strips, BDLs and BI.BSW; some cables need to be installed for Q-strips and Bdl (w47/48 tbc)
- Dry run for BLM system and some follow-ups
- Dry run on WIC and the stripping foil system
- POPS-B HMI training with TE-EPC

ISOLDE (A. Rodriguez):

- The repair of the 9gap amplifier finished last Tuesday. On Wednesday afternoon, we organized an access to the tunnel to disconnect the amplifier from the dummy load and reconnect it to the cavity.
- We profited from the access to the tunnel to replace one of the silicon detector pre-amplifiers as well
- On Thursday, we continued with the beam commissioning program. We phased the 9gap structure and started with the first superconducting structure.
- On Friday, we continued phasing the SRF cavities. We finished the 5 cavities in the first cryomodule. The beam energy now is ~ 4.4 MeV/u.
- On the low energy side, we sorted out a problem with one of the quads in the CA0 line that was blocking us and some issues with the beam instrumentation in the GPS separator area.

ELENA:

- Progressing with commissioning.
- Decision to be taken on the BTV in the injection line. BI can provide a spare in a week's time, but resources on the TE-VSC side are very tight.

LHC:

- Cool-down of sector 4-5 is progressing well
- Cooldown of sector 7-8 will start this week.