Preliminary CeC Schedule

Main Phases of CeC PoP Commissioning and First Tests

- RF Systems Set-up (February 6 – March 17)
- Low Energy Beam Set-up (March 6 – March 24)
- High Energy Beam Set-up (March 27 – April 21)
- FEL Set-up (April 24 – May 12)
- Establish Common Operation of Hadron and Electron Beams (May 15 – June 5)
- First Experiments (June 5 – end of the Run17)

Milestones

Start of cooldown	February 6th
Insert first cathode	February 26th
Complete RF conditioning	March 17th
Complete injector tuning	March 24th
MPS is commissioned	May 1st
Complete FEL tuning	May 12th
Start of the first experiments	June 5th

RF Systems Set-up

- Warm conditioning of FPCs (February 6 – February 10)
- Helium processing of SRF cavities (February 13 – February 24)
- Develop gun operator controls (February 27 – March 3)
- Commission 704 MHz accelerator cavity (February 27 – March 17)
- Develop accelerator cavity operator controls
- Re-commission buncher cavities and develop operator controls
- Develop laser controls and laser beam parameters measurement

Low Energy Beam Set-up

- Get first beam and measure beam parameters (energy, emittance, charge, …)
- Check operation of BPMs and profile monitors
- Commission gun ICT
- Debug and make ready to use scripts (QE map scan, gun center scan, beam energy measurement with solenoids, emittance measurement with slits and solenoid scan, LEBT physics controls, …)
- Deliver beam to low power beam dump and cross calibrate gun ICT and Faraday cup
- Measure low energy beam optics
- Systematic studies of beam optics on charge
- Phase buncher cavities

High Energy Beam Set-up

- Finalize scripts for beam parameters measurement (quadrupole centering, beam optics measurement, response matrix measurement, orbit correction, high energy beam physics control)
- Measure and optimize beam parameters (emittance, bunch length, energy, energy spread)
- Fix experiment energy and RF frequencies
- Propagate beam to the high power dump
- Commission beam diagnostics (BPMs, dump ICT, profile monitors)
- Establish reference orbit
- Commission MPS
- Radiological surveys
- Fault studies

FEL Set-up

- Match beam optics into the wigglers
- Adjust orbit
- Commission IR diagnostics
- Measure FEL gain

Establish Common Operation of Hadron and Electron Beam

- Develop RHIC Ramp
- Establish hadron set-up and monitor baseline
- Measure hadron beam stability
- Commission hadron BPMs
- Align transversely hadron and electron beams
- Match electron and hadron beams energy
- Proceed to coherent electron cooling tests

Scripts/Applications

- Magnets normalization
- LEBT energy measurement with solenoid (two solenoids? both trims?)
- QE map scan
- Gun cavity center measurement
- LEBT emittance measurement (slits, solenoid scan)
- LEBT physics control
- CeC (high energy) physics controls
- Beam optics measurement with quadrupole scan (emittance as well)
- Bunch length, energy spread measurement
- Quadrupole centering (BPM offset)
- Response matrix measurement
- Orbit correction
- Orbit stabilization