UITF Start Up Check List

1. Obtain approval for proposed MeV beam run, follow UOD guidelines, e.g., discuss with Andrei or if appropriate, organize an ERR
2. Provide a description of beam tests to SCMB if requested to do so
3. Discuss with SRF and Cryo the schedule of the proposed MeV run period and agree on dates for cooldown and warmup of the booster CM
4. Work with High Level Apps team to update the UED if beamline changes were made
5. Update the Operational Restrictions if beamline changes were made
6. Update the UITF Quick Reference if beamline changes were made
7. Perform HCO without beam. Although the HCO tool exists for UITF, few people use it. UITF operators perform a “manual” HCO by opening all the relevant epcis screens used during normal beam operations, and verify as much functionality as possible, e.g., cycle harps, vary magnetic fields, test viewers, etc., Contact system owners if problems encountered
8. Check the status of UITF IOC’s. There are the traditional ones that live in VME crates, but there are many that are PC104s and they can be hard to find. Correct any IOCs that are unresolved, with the help of Ops Software and system experts.
9. Obtain Beam Authorization for upcoming run, note authorization via electronic logbook entry
   1. This implies all credited controls are in place and approved by RCG, Facilities and SSG
   2. Check the beam current trip setpoint of the MPS/PSS beam current monitor, verify the trip setpoint current is consistent with Beam Authorization specifications
10. Cool the booster to 2K. This can take one week. The work is done by Cryo and SRF, they must work in close collaboration, but UITF Facility Manager often gets involved, e.g., to coordinate or educate staff on protocol. Booster cooldown procedure located here: <https://wiki.jlab.org/ciswiki/index.php/UITF_Procedures_not_managed_via_document_control>
11. If the program requires polarized beam, turn ON the pockels cell and verify alignment
12. Load a saved file from known-good setup and restore MeV beam
13. Change the beam energy to that required by the program
14. Once restoration begins, turn ON the UITF alarm handler
15. Strive to deliver beam with all FSD nodes unmasked

Shutdown Checklist

Daily Shutdown Checklist during an MeV run:

1. Gun HV ramped to zero, OFF
2. Booster cryomodule RF OFF
3. Cathode power supply (aka klystron power supply) high voltage OFF
4. Valves closed
5. Check the rapid access radiation monitor, verify SAFE
6. State that you have performed the actions listed above in a common UITFLog electronic logbook entry with title “UITF Open”
7. Some experiments or tests require extra steps at the end of the day, like turning OFF a large magnet or detector

End of Run Shutdown Checklist

1. Follow the Daily Shutdown Checklist:
   1. Turn OFF the gun HV
   2. Turn OFF the booster cryomodule RF
   3. Turn OFF the cathode power supply, including the filament
   4. Close all epics-controlled valves
   5. Check the rapid access radiation monitor, verify SAFE
   6. Reference the steps listed above in a common UITFLog electronic logbook entry with title “UITF Open”
2. Rescind Beam Authorization, and post logbook entry (This can happen automatically via specified expiration date, or the Facility Manager can contact Head of Accelerator Operations for this step)
3. Long term:
   1. Log the UITF vacuum screen, valves CLOSED, for posterity
   2. Retract all insertable devices such as viewers and stepper controlled apertures (bellows extended, a better vacuum condition)
   3. Turn OFF or disable the alarm handler
   4. Coordinate booster warm-up: Cryo and SRF
   5. Turn OFF all magnets and magnet racks
   6. Turn OFF the Pockels cell high voltage
   7. Turn OFF BLM HV (ask SSG to do this)
   8. Turn OFF video monitors that won’t be used for awhile