

Cool down Phase 2023

Task to be completed before cooling down

Before going to the cooldown phase, we must complete the following tasks. Without these tasks, we cannot proceed with the cooldown.

1. UPS System Setup for IVC
 - a. UPS specifications [Insulation Vacuum Page](#)
 - b. Power outages In the past and recent [Insulation Vacuum Page](#)
 - c. We are in the loop with Steve Chappat to put the UPS; he will make a walkthrough soon
2. Replacement of the flow controller (MFC) for the magnet return line
 - a. HA was submitted and approved.
3. Exchange of the flow controllers on the QT Manifold
 - a. HA was submitted.
4. Cleaning the outside gHe tank
 - a. We have the procedure on the confluence page [Cleaning gHe outside tank using the purifier - Wiki Post Portal - Confluence \(virginia.edu\)](#)
 - b. we need to submit it on DocDB and approve it soon.
5. Cleaning Purifier
 - a. After cleaning the gHe tank, we should clean the purifier to remove the contamination from the gHe tank cleaning.
6. [Needs to backfill the Magnet and the fridge with gHe — Completed on Apr. 18.](#)
7. Test the turbo pumps on the IVC (Insulation Vacuum)
 - a. Turn ON the both Backing Pump (ACP 15) and the turbo pump (TMU 1001P)
 - b. Turn OFF the turbo Pump (TMU 1001P) and keeps ON the backing pump (ACP 15)
 - c. Turn OFF the backing pump (ACP 15) and keeps ON the turbo Pump (TMU 1001P)
 - d. Install the HiCube 300 ECO on the IVC through the KF25 Tee connection
 - e. Keeps turning ON the turbo pump (TMU 1001P), Backing Pump (ACP 15), and the HiCube 300 ECO.
 - f. Turn OFF the turbo pump (TMU 1001P), Backing Pump (ACP 15) and keeps running the HiCube 300 ECO.
8. Remove leaks from the IVC (Insulation Vacuum Chamber)
 - a. We will receive our UVA Leak checker at the end of this week
9. Both Liq's A and B should be running and in production mode.
 - a. Both should need to be produced 4L/h
10. Load gHe bottles into the system
 - a. We do not have much helium in the outside gHe tank
 - b. We do not have a procedure.
11. Helium boil-off from the commercial dewars
 - a. We have two commercial dewars.
 - b. Boil-off procedures are approved.
 - c. The engineering note is still under review
 - d. I need a Certificate of Compliance from IdealVac.
12. Heat tapes for the IVC and the fridge turret
 - a. Commercial products of the heat tape and the power controller were approved by David Mertz
 - b. A metal-box enclosure for the power-controller circuit is being designed

Heat load in the shield

Heat load in the magnet

Fast-cooldown

Slow-cooldown