

Polarized Target Maintenance & Monitoring Activities

If you notice something to be reported immediately, then please email Dustin (dustin@virginia.edu) and call the Target Expert on-call at that moment.

Target Monitoring and Maintenance Guide for Target Expert Shift
see [Target Expert](#) (click) page for the detailed information
(weekly basis)

Target Monitoring and Maintenance Guide for Target Helper Shift

Revised (10/16/2022)



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Helium Liquefier (QT) System

Task#	Task	Frequency	Comments
1	Check the gHe bottles' level on west-wall of the cryoplatfrom	Monday /Wednesday/Friday	Replace if the level is low
2	Check the number of LN2 portable dewars outside the loading dock	Everyday	Inform Kun to order LN2 portable dewars if the number of dewars is less than 2
2	Record the number of gHe and gN2 bottles at the outside rack	Monday /Wednesday/Friday	https://docs.google.com/spreadsheets/d/1EDTHSeUDGJ9b6beYizHEAJ8-Z1rAiQbZMgKhmlPLw8/edit#gid=1831993347 Inform Kun to order gas bottles (gHe and gN2) if the counts are less than 2

3	Check gHe pressure and LN2 pressure of the outside tanks	Every morning, evening	https://docs.google.com/spreadsheets/d/1EDTHSeUDGJ9b6beYizHEAJ8-Z1rAiQbZMgKhmlPLw8/edit#gid=1940801906
4	Check QT HR3 gauges	Every morning, evening	https://docs.google.com/spreadsheets/d/1EDTHSeUDGJ9b6beYizHEAJ8-Z1rAiQbZMgKhmlPLw8/edit#gid=1940801906
5	Check QT liquid (Dewar/purifier) levels	Every morning, evening	https://docs.google.com/spreadsheets/d/1EDTHSeUDGJ9b6beYizHEAJ8-Z1rAiQbZMgKhmlPLw8/edit#gid=1727227200
6	Check LCW main inlet, an outlet to NM4	Every morning, evening	https://docs.google.com/spreadsheets/d/1EDTHSeUDGJ9b6beYizHEAJ8-Z1rAiQbZMgKhmlPLw8/edit#gid=558588447
7	Monitoring QT compressor LCW temperatures	Every morning, evening	(setting up this is still in progress) Alarm conditions: T_inlet > 95F or T_out > 115F
8	Filling LN2 to the QT purifier using portable Dewar	Monday, Wednesday, Friday	Mark the date, time, and levels before and after filling Procedure: Filling LN2 to the purifier using a portable Dewar ** Need to be qualified with large portable liquified gas dewar handling training (FN000475 / OJ) **
9	Filling gHe outside tanks using tube-trailer	One every 3 months	Instructions will be added soon

Roots Pumps system

Task#	Task	Frequency	Comments
1	Check oil levels of all 4 pumps	Once everyday	Required levels: <ul style="list-style-type: none"> when pumps are not running: Close to Full when pumps are running: close to center/mid level
2	Check LCW inlet and outlet parameters to the ROOTS, and also the main LW inlet	Every morning, evening	https://docs.google.com/spreadsheets/d/1EDTHSeUDGJ9b6beYizHEAJ8-Z1rAiQbZMgKhmlPLw8/edit#gid=0 Notify Dustin (dustin@virginia.edu) and Ishara (ishara@virginia.edu)
3	Check ROOTS pumps pressure and temperature using HMI	Every morning, evening	https://docs.google.com/spreadsheets/d/1EDTHSeUDGJ9b6beYizHEAJ8-Z1rAiQbZMgKhmlPLw8/edit#gid=761047776

UVA-NMR system

Task#	Task	Frequency	Comments
1	Check Lambda/2 cable connectivity	Once a week	If a cable has a problem, then mark it with a label
2			

Magnet Power Supply system

Target Lifter system

Cryogenic system checks (Pressure & Temperature)