

Target Expert

As the target expert, you are in charge of the entire target infrastructure and cryogenic system. You must make a work plan for all target activities. You can reach out to Dustin for help with this if needed. While we are in the commissioning phase you should arrange and plan all target and cryogenics system work to be done in the next week and make sure the team has a workable plan to achieve its goals. Plan a schedule for that week and make sure the team has the resources needed. Arrange at least one target commissioning meeting (probably Friday but whatever works) to discuss what has been achieved to help the team and the incoming target expert know what is going on. Contact Dustin with any anomalies, concerns, or questions.

Calendar: <https://calendar.google.com/calendar/u/0/r/month/2023/5/1>

1. Respond to alarms (you can reach out to group members if you have questions), and **be aware of the current status of the system**.
2. Check [Target System Maintenance](#) page and arrange/perform necessary maintenance.
3. Fill LN2 into the purifier and shield with the Target Helper.
4. Fill LHe into the magnet (routine: if the magnet is cold) with the Target Helper.
5. Make sure to revise, make, and update procedures and the Full System's manual [SpinQuest Polarized Target System Manual](#) (add pages if needed and link appropriately)
6. Plan all work activities, performing procedures and provide a plan and schedule to the group
7. Arrange for the need equipment, supplies, materials, and resources needed for that week's work
8. Attending the 8:30 am toolbox meeting and report the work plan for that day
9. Point of contact for the entire target system and coordinate with the group members.
10. Make sure that the spreadsheet is up-to-date and coordinate with the target helper to keep it up-to-date (entries before 9 am and after 5 pm would be great if possible).
https://docs.google.com/spreadsheets/d/1rVhYVYyCIAVFNEt_vyj8aQ8GLVS3DRL51QKbansgkOr8
11. **Check the system statuses of all sub-systems regularly** and respond to any notifications, power-cycle, etc. and take action or arrange any maintenance if needed.
12. Assist the target helper whenever any help is needed, and coordinate with the target group members if needed.
13. Make sure the supplies: LN2 portable Dewars, gHe in the tank, LN2 in the tank, gHe & gN2 cylinders etc. are sufficient every time.
Use the instructions on : [How to order LN2 refill to the tank](#), [gHe tube-trailer](#), [LN gHe cylinders](#), and [LN2 portable Dewars at FNAL](#) (or contact Kun if you have problems).
14. Have at least one target commissioning meeting to evaluate, organize, and share information/work
15. Make sure the cryogenic system is prepared and in a state needed for the following week
16. Document all activities for that week in both the written logbook and the UVA-SpinQuest elog (transfer critical info from the written logbook to elog at the end of each week).
17. Each day all activities should be recorded in the logbook. If there are new or updated procedures make sure they are published separately on our confluence page.
18. Review any new activities and procedures to ensure the safety of the team. Discuss any dangers or concerns at the Group and Target Commissioning Meetings.
19. Need to check/know if any of the valve configurations or settings are changed and make sure to record that detail in the uva-elog.
Take pictures of the settings screens on (i) HR3 small PLC screen (ii) Kaeser Compressor upload those pictures to folder (name should be the date) on OneDrive > Documents > Experiments > E1039 > QT > HR3/Kaeser.
20. Update the Ammonia inventory on <https://docs.google.com/spreadsheets/d/15EvIrAAGzKPV4YjH22BjjoMFGml9tNP0/edit?usp=sharing&ouid=103424012216477020117&rtoref=true&sd=true>
and make sure the docdb <https://seaquest-docdb.fnal.gov/cgi-bin/sso/ShowDocument?docid=10780> is up-to-date with that.
21. Update the ammonia calendar similar to the following sample information for each day.
 1. Activity: Transferring solid ammonia from one bottle to another bottle
 2. Time Slot: 1:00 pm to 2:00 pm
 3. Who performed the activity?
Group 1: Dustin (A) and Ishara (B) [~ 8 mins]
Group 2: Vibodha (A) and Ernesto (B) [~12mins]
 4. Observers from FNAL
Lisa ES&H, Daniel, and another member from the FNAL IH
 5. Comments from the observers: everything went smoothly.
 6. Location: Back of the NM4 Hall (designated location to load/unload target materials)
22. To request that IH (Industrial Hygiene) open the shed to refill the storage dewars with LN2 or transfer the material in them, we need a PID ammonia sniffer. Please reach out to the following persons.

Here is the contact list for PID ammonia sampling in the shed. If for whatever reason Daniel cannot be reached, please make your way down the list.

[Loading Material into Shed](#)

MEDINA, DANIEL (ID 48520N)

ENVIRONMENT, SAFETY AND HEALTH DIVISION, DEPUTY ESH OFFICE, ESH SERVICES SECTION, TECHNICAL SUPPORT & AHJ SERVICES, INDUSTRIAL HYGIENE

Email: djmedina@fnal.gov

Mail Station: 355 (TRAINING CENTER)

FNAL Phone: 630-840-8081

HOUSE, ASHLEY (ID 49674N)

ENVIRONMENT, SAFETY AND HEALTH DIVISION, DEPUTY ESH OFFICE, ESH SERVICES SECTION, TECHNICAL SUPPORT & AHJ SERVICES, INDUSTRIAL HYGIENE

Email: ahouse@fnal.gov

Mail Station: 355 (TRAINING CENTER)

FNAL Phone: 630-840-6801

LINDGREN, MITCHELL (ID 47573N)

ENVIRONMENT, SAFETY AND HEALTH DIVISION, DEPUTY ESH OFFICE, ESH SERVICES SECTION, TECHNICAL SUPPORT & AHJ SERVICES, INDUSTRIAL HYGIENE

Email: lindgren@fnal.gov

Mail Station: 355 (TRAINING CENTER)

FNAL Phone: 630-840-5424

ALEX, SHAUNAE (ID 50147N)

ENVIRONMENT, SAFETY AND HEALTH DIVISION, DEPUTY ESH OFFICE, ESH SERVICES SECTION, TECHNICAL SUPPORT & AHJ SERVICES, INDUSTRIAL HYGIENE

Email: salex@fnal.gov

Mail Station: 355 (TRAINING CENTER)

FNAL Phone: 630-840-8362

SPAW, MATTHEW (ID 35888N)

ENVIRONMENT, SAFETY AND HEALTH DIVISION, DEPUTY ESH OFFICE, ESH SERVICES SECTION, TECHNICAL SUPPORT & AHJ SERVICES, INDUSTRIAL HYGIENE

Email: mspaw@fnal.gov

Mail Station: 355 (TRAINING CENTER)

FNAL Phone: 630-840-2973

Work-related Meetings

Day	Time (CT)	Meeting Topic	zoom
Monday	10:30	ES&H	Barbara's zoom link
Wednesday	10:30-11:00	Target/Controls Meeting	UVA PT group zoom
	11:00-12:00	Target group + Eric	UVA PT group zoom
Thursday	15:00	Weekly work planning meeting	Kun's link

Target Expert Checklist (Please go through this list at least two or three times a day)

Item #	Task
1	Make sure elog entries (UVA, and Fermilab (if needed) are posted by the group members every day. UVA elog entry for every single activity would be needed.
2	Check supplies: gHe cylinders, gHe tank, LN2 portable Dewars, gN2 cylinders Take immediate action on arranging them (ordering).
3	Check Target System Maintenance page and arrange/perform necessary maintenance with the Target Expert.
4	Check the total helium amount in the entire system, and discuss with the group, take necessary actions if we are losing helium.

5	Ensure the lights in the cave are working and ready to use.
6	Coordinate to have the material change tub filled with LN2 before a practice/refill.
7	Coordinate with the group for the plan next day (even the tasks are on the calendar) for requests at the toolbox meeting
8	Keep track of the ordered items (on going delivery or processing) during your shift period
9	Check the QT system periodically (at least 4 times a day) and make sure everything is normal
10	Check the Cryo-control system periodically (at least 4 times a day) and make sure everything is normal
11	Take the lead to address any alarms (arrange team members if needed)
12	Lead the ongoing Procedures, ORCs, HAs: coordinate with those who are writing, and contribute/provide help if needed.
13	Keep in touch with Target Helper, and check Target Helper's Fermilab elog entries.
13	Send out reminder email/discord messages to the team members (or to the collaboration) of any upcoming meeting(s) activities.
14	Coordinate with the Target Helper/Trainee to ensure the full system is been monitored frequently, and pay attention to the system's behavior.

Useful links:

1. Target Maintenance slides: <https://sequest-docdb.fnal.gov/cgi-bin/ssso/ShowDocument?docid=10182>
2. elog (UVA): <http://twist.phys.virginia.edu:8081/General/>
2. elog (FNAL): https://dbweb8.fnal.gov:8443/ECL/spin_quest/E/index
3. Target TV: <https://e906-gat1.fnal.gov/data-summary/e1039/target-par-preset/target-tv.php>

Old-Spreadsheet:

1. <https://docs.google.com/spreadsheets/d/1EDTHSeUDGJ9b6beYizHEAJ8-Z1rAiQbZMgKhmlPLw8> (old one)

Target Expert Shift Rotation (starting from Oct 1st)

	Team Member
1	Vibodha
2	Kenichi
3	Ishara
4	Farooq
5	Ernesto
6	Liliet
7	Chatura
8	Huma
9	Syed
10	Vaniya
11	Harsha
12	Dinupa

Target Trainees

	Team Member	Institution