

C_004: High Pressure Liquid Nitrogen Fill Station Operator Training, Certification, and Access Procedures

LLE maintains a high-pressure liquid nitrogen (LN2) filling station (80-120 psi delivery pressure) at the LLE West loading dock area for filling of *pressurized* LN2 storage and delivery containers. Use of the high pressure liquid nitrogen filling station is limited to those individuals who have been trained and certified to properly operate the unit.

(A) Training and Certification of Fill Station Operators

The training and certification process is a “hands-on” process conducted by the LLE Chemical Hygiene Officer . A “certified” fill station operator is a person who has:

- (1) Successfully completed the LLE Mechanical Safety (M_001), Compressed Gas Safety (M_002), and Chemical Safety (C_001) training courses;
- (2) Received initial training from the Chemical Hygiene Officer in the safe operation of the fill station;
- (3) Conducted at least two filling operations under the close supervision of either the Chemical Hygiene Officer or a previously certified fill station operator;
- (4) Demonstrated both proficiency in operating the fill station and a working understanding of safety rules by conducting a filling operation unaided while being observed by the Chemical Hygiene Officer.

After successfully completing the certification and training process described above, the fill station operator trainee is added to the Certified High Pressure LN2 Fill Station Operator database, which is maintained by LLE Administration. A regularly updated list of certified fill station operators derived from this database is kept at the LLE West Lobby Reception desk.

(B) Fill Station Access



A locking unit (*see photo, left*) is installed on the fill station controls in order to ensure that the fill station is used only by properly trained and certified personnel. Access to the fill station is controlled through the LLE Front Desk Receptionists in the LLE West Lobby. The receptionists retain the fill station key and are instructed to release the key ONLY to those individuals whose names appear on the High Pressure Liquid Nitrogen Fill Station Certified Operator list (*see example below*).

**High Pressure Liquid Nitrogen Fill Station
Certified Operator List**

The individuals listed below have been trained and certified to use the high-pressure liquid nitrogen filling station.

Any individuals not on this list must contact the Chemical Hygiene Officer or a designated alternate to arrange for training and certification before operating the fill station.

Name	Group	Supervisor	Latest Training Date
K. L. Marshall	Optical Materials	S. Jacobs	6/4/1986
Jalil Shojaie	Optical Materials	K. L. Marshall	6/17/2010
Lichang Zheng	Chem Eng	S.H. Chen	7/15/2010
Fred Marshall	Experimental	T. C. Sangster	6/15/2010

NOTE: The key will NOT be released to any second parties- for example, telling the receptionist: “my supervisor sent me down to get the key for him/her” is NOT acceptable and such requests will not be honored.

(1) High Pressure LN2 Filling Station access (0830-1700 hrs, Weekdays)

- (a) The operator requests the key from the front desk receptionist, signs and dates the High Pressure Liquid Nitrogen Fill Station Key Log, and marks the “Key Out” Box.

- (b) The operator unlocks the filling station and proceeds with the filling operation.

- (c) After completion of the filling operation, the operator locks the filling station, returns the key immediately to the front desk receptionist, and marks the “Key Returned” box on the log book (*see example below*).

High Pressure Liquid Nitrogen Fill Station Key Log

Certified operators must sign this log when obtaining and returning the key for the High Pressure LN₂ Filling station to the LLE Front Desk Receptionist.

Fill Station key is only to be released to individuals on the Certified Users List

KEYS MUST BE RETURNED IMMEDIATELY AFTER USE, NO LATER THAN 1700 hours (5:00PM) ON THE DAY THEY ARE SIGNED OUT-NO EXCEPTIONS.

Name	Date	Key out	Key returned
K. L. Marshall	9/2/2010	X	X

(2) High Pressure LN2 Filling Station access: After Hours and Weekends

Access to the High Pressure LN2 Filling Station outside of normal working hours by certified operators is not permitted *except under certain specific mission-critical or emergency situations*. Certified operators with a critical need to operate the station after hours must:

- (a) Obtain **written** permission from both the Chief Safety Officer and the Chemical Hygiene Officer, specifying the nature and impact of the situation requiring after-hours operation of the station.
- (b) A safety monitor, or “buddy” **MUST** be present during all fill operations. The person acting as the buddy must be named in the written request, and that person must verify that he or she will commit to being available during the fill process.
- (c) Obtain a key from either the Chemical Hygiene Officer or, in his/her absence, the Facility Manager. The Chemical Hygiene Officer or Facility Manager will require the individual to sign and date a log sheet, indicating the date and time the key was checked out.
- (d) Return the key *in person* to the Chemical Hygiene Officer or Facility Manager at the first opportunity on the next regular working day. The Chemical Hygiene Officer or Facility Manager will mark off on the log sheet that the key has been returned.