LSU/CAMD Procedure	**Doc. ID:**	**GS-PR-0002.001.doc**
Liquid Nitrogen (LN_2) Fill	**Date:**	**2001/01/30**

This document describes the general procedure for filling large stainless steel liquid nitrogen (LN_2) dewars from the large external LN_2 tank located in the gas cylinder farm of the CAMD facility.

1. Always Wear Insulated Gloves and Protective Glasses or Goggles ☐

2. Make sure all valves on the large LN_2 dewar are closed. ☐

3. If the LN_2 dewar liquid line is attached to something, you must disconnect it before being able to move the dewar for filling. **Note**: For the large dewar supplying the cleanroom, disconnect the line running into the cleanroom, using the wrench supplied for this purpose. *Please note that removal of the LN2 dewar supplying the cleanroom is a task that requires two persons due to safety concerns in the small area available to maneuver the liquid nitrogen dewar.* ☐

4. Roll the dewar to the external LN_2 tank and bring the brass adapter (if necessary) to connect the LN_2 hose to the tank. ☐

5. Connect the metallic gray-colored hose of the external LN_2 tank to the "liquid line" of the dewar. ☐

6. Open the "vent" valve on the portable dewar. ☐

7. After opening the “vent” valve, then and only then open the "liquid line" valve. ☐

8. Open the valve on the external LN_2 tank by raising the valve next to the external LN_2 source all the way up to fill the dewar. Nitrogen vapor should spew from the opened dewar "vent" valve as the dewar fills. ☐

9. When the gauge on the dewar shows full (the marker reaches the top) and LN_2 drops begin to spew out of the "vent" valve, the portable dewar is full. ☐

10. Filling normally takes about 30 minutes. **Dewars are not to be left unattended** during the fill procedure. ☐

11. Follow the sequence of valve closure
    a. Close the valve of the external LN_2 tank first (i.e. large tank). ☐
    b. Close the portable dewar "liquid line" valve second. ☐
    c. Close the portable dewar "vent" valve last. ☐

12. Vent the hose by opening the ”vent” valve adjacent to the external LN_2 tank valve. ☐

13. After venting is completed, disconnect the metallic gray-colored hose from the portable dewar. ☐

14. Return the filled portable LN_2 dewar to the experimental hall. ☐

15. If necessary, connect the liquid line of the portable dewar to the area to be filled with liquid nitrogen, (example: liquid LN_2 line to the penetration in the cleanroom which supplies the cleanroom evaporator). ☐

Authorization: By the signatures affixed below, this policy is authorized by the CAMD Director, the CAMD Facility Manager and by the CAMD Safety Director.

_____Date_____ **_____ Date_____**

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