

LArFCS Progress Report

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Lab Safety and 6000-gal LN2 tank

▶ ESH inspection on L1 today

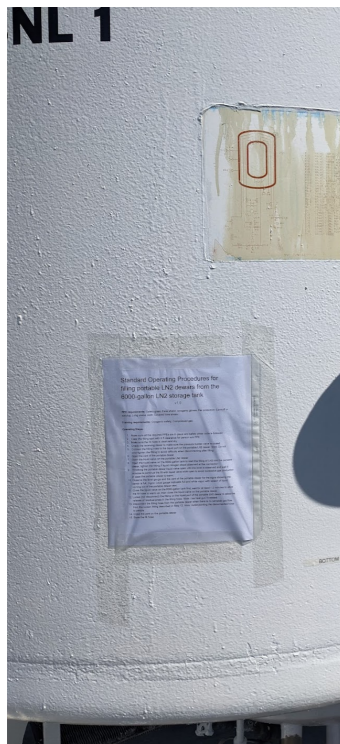
- Quite serious inspection compared to the previous ones
 - Safety and Health Technical Services Manager Mario Cubillo comes with another 7 people
- Comments and suggestion received for:
 - Keep compressed gas bottles within the rack (resolved)
 - Store the unused cryogenic parts taken off from the 6000 gallon (resolved)
 - Adding labels to the dewars with specifications of the cryogen in the container (lab safety is going to provide labels later)
 - Sign by working area with reminder of wearing safety glasses (lab safety is going to provide)
- Complimentary received from Mario with improvement of the lab space



Lab Safety and 6000-gal LN2 tank

▶ 6000 Gallon tank filling

- I have filled 8 portable dewars so far
- Safety approved SOP posted on the dewar for other users
- Resolved the problem that the LN2 delivery truck did not show up last week
- Lesson learned for the refill: need to fully depressurize the receiving dewars
- Filling an empty portable dewar with 200-230L volume takes 15-20 mins
- Manufacturer specification is 0.75% volume loss per day
- LN2 level drop by 18" so far drop only observed after filling to the portable dewar
 - ~2100 L LN2 withdrawn
 - ~1800 L filled into portable dewar, about 85% efficiency with ~15% loss, actual performance should be slight better



LArFCS Purification Run

► **Cleaning of the plumbing and fittings**

- Some fittings found with contamination on the inner wall during plumbing assembly
- To ensure the cleanness of the plumbing, all parts on the manifold go through an additional cleaning procedure with ultrasound cleaning
- Water with 60 C water with 1.5% Citracid solution with distilled water following up with 2 round of rinse with distilled water



LArFCS Purification Run

► Plumbing for the activation

- Problems found during crane before the plumbing
 - The straight connections can hardly detach/connect during the assembly
 - Need to add in valves on in the vertical directions
 - Gas manifold also needs some modifications accordingly
- In-situ made schematics shown here, with update in the 3D model later
- Expected to finish the modified gas manifold and plumbing this week

