LArFCS Cryogenic System Progress

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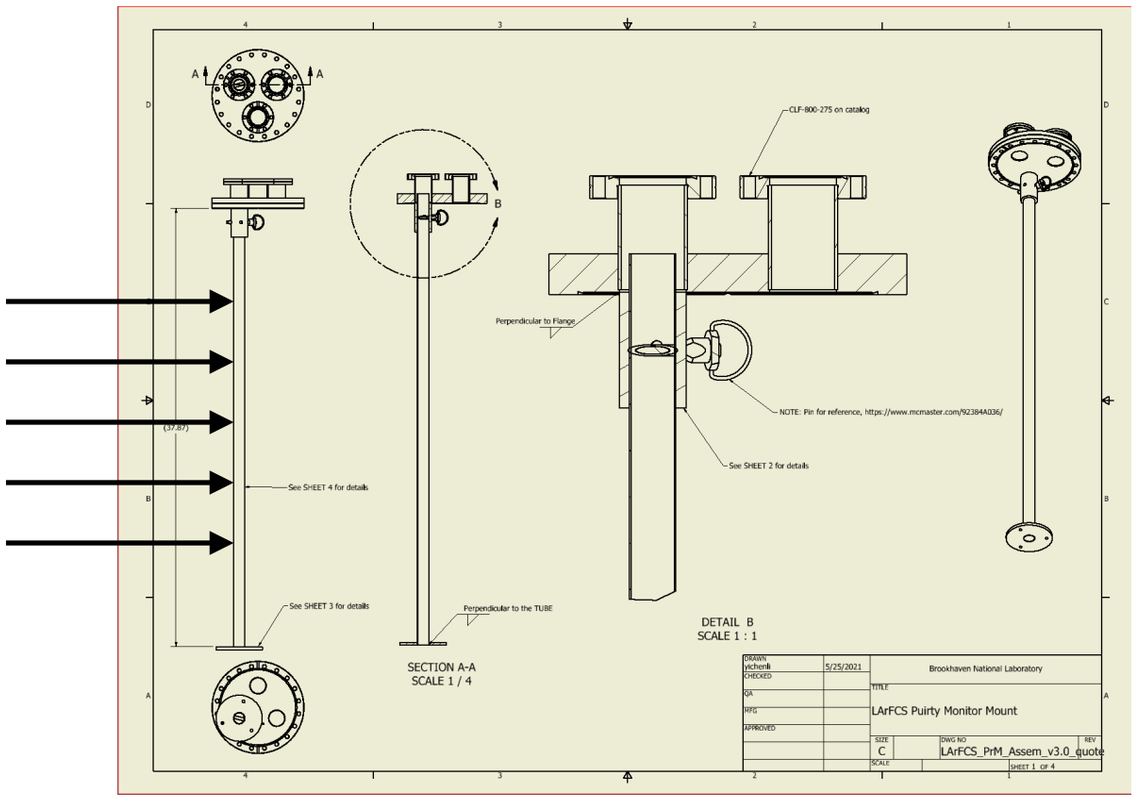
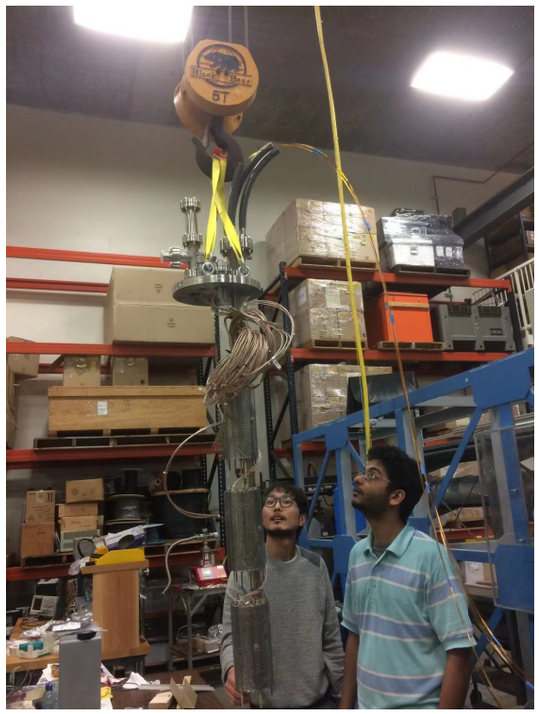
LArFCS Construction

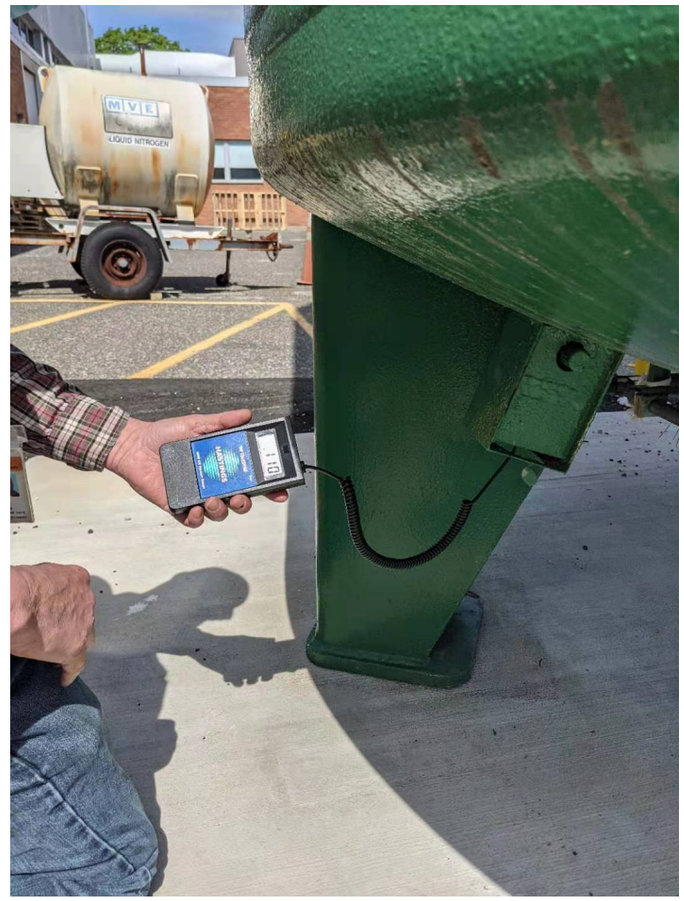
- **LArFCS construction**
  - Feedback received from Jianming and Jason about the design
  - Jianming pointed out a few holes should be added to the mounting rod to eliminate dead volume and provide details on the cabling arrangement
  - Jason points out on some missing critical tolerance
  - Revising the drawing and sending to KHV this week





6000 Gallon LN2 tank(A Reminder)

- **Preparations for the commissioning following lab safety guidance**
  - Operation procedures and documents
    - Tank operation manual provided to Mike with all the procedures, waiting for Mike's feedback
  - Vacuum quality check to ensure the vacuum insulation integrity
    - Vacuum reading was acquired from the tank with help from Magnet Division
    - Reading is 110 mTorr, slightly higher than typical vacuum of 50 mTorr for such tank
    - Vacuum would improve under cold, still operational with more boiling-off
    - Confirming with Mike for the operation
  - Replacement of the burst disk, and radiator (optional)
    - F&O has not ordered the parts
    - The commission can be proceed with the items order, radiator is optional
  - Pressure test
    - The test can be run under minimal pressure as low as 15 psig
    - A hold test to verify the plumbing of the tank is still good
  - Paint the tank (optional but strongly recommended)
    - Mike strongly recommend it
    - Tom needs a new WO to do it
    - A painter is currently working onsite with the Mag Division Tank, cost is ~$3000

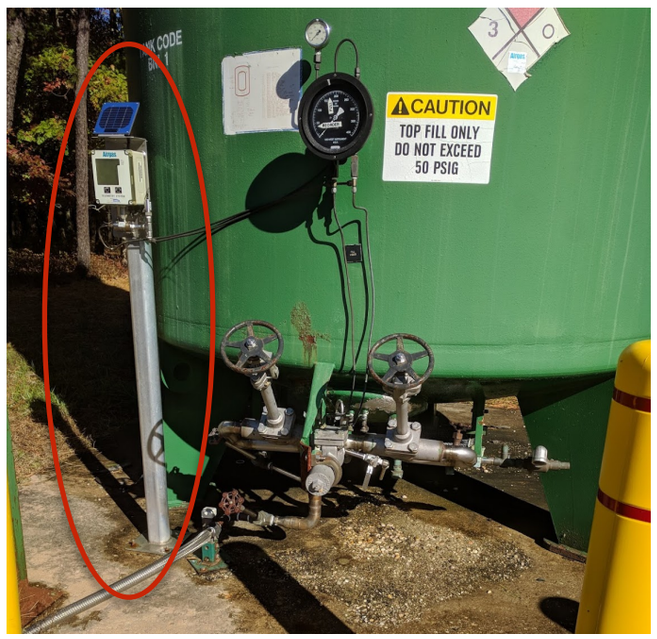


6000 Gallon LN2 tank

- **Preparations for the commissioning following lab safety guidance**
  - Still waiting for feedback on documentations
  - Insulation vacuum quality test
    - Consulted with lab cryogenic team lead Roberto Than
    - Similar comments, current insulation vacuum at ~110 mTorr is still sufficient for operation
    - A sign showing no significant after long term in spare
    - The vacuum will improve under cold
    - Better to prepare for a pump-down in case, locating the ports and equipments etc.
    - The point a pump-down is necessary is when the vacuum increase the order closing to ~1 Torr

6000 Gallon LN2 tank

- **Preparations for the commissioning following lab safety guidance**
  - Practice valves operation following the P&ID diagram
  - Pressure test in progress
    - Safety requires a pressure holding test up to ~ 15 psig
    - Plumbing connected for the differential level gauge
    - No plan to implement the remote level reading device
    - Charging from one line of the press-diff level gauge with a full LN2
    - As the tube size to very small(1/4”), the goal is to achieve ~15 psig
    - Current set up with single tank would take about ~ 2 days



6000 Gallon LN2 tank

- **Preparations for the commissioning following lab safety guidance**
  - Suggested by Bill, now is the right time to bring in the Airgas for a tank inspection for delivery
  - Painters are working on container at Magnet Division, seems to be a 2-people job
  - Inquiring to cover the est. cost of $3000 by cold electronics accocunt