DSG-RICH R&D Meeting

Date: February 28, 2022
Time: 11:00 AM – 12:00 PM

Attendees: Mary Ann Antonioli, Aaron Brown, Pablo Campero, Brian Eng, George Jacobs, Mindy Leffel, Tyler Lemon, and Amrit Yegneswaran

1. Hardware interlock system chassis testing underway

Mindy Leffel and Tyler Lemon

1. Seventeen of twenty four SHT35 sensor PCBs have been used with hardware interlock system's LabVIEW program since February 21, 2022 with no issues
    - Mindy Leffel is working on re-terminating five RJ45-Molex cables and fabricating two more for seven remaining sensor PCBs

2. Nitrogen supply setup for RICH-II

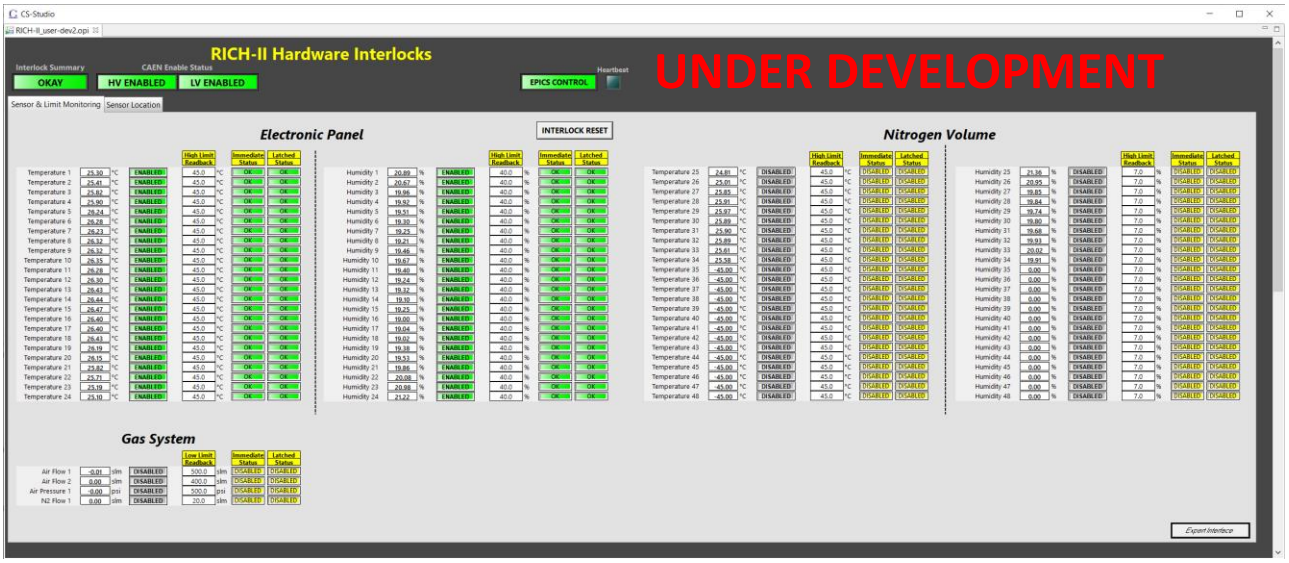
1. One 1/2"-outer diameter (OD) nylon tube for main N_2 supply
2. Main N_2 supply line branches off into two 1/2"-OD lines at detector
3. Two lines enter RICH N_2 volume, one at the right cable raceway, the other at the left cable raceway
4. Immediately inside the N_2 volume on both sides, there is a small store-brought manifold that splits the 1/2"-OD line into six, 20-meter long, 1/4"-OD lines
5. The six 1/4"-OD lines are routed down the front panel of the RICH to blow N_2 across aerogel tiles
    - 1/4"-OD lines are held in place by a specially designed bracket
        – Brackets are on hand in cleanroom
6. One bubbler is attached to detector shell through a connector at one of the cable raceways for N_2 exhaust

3. Air-cooling supply setup

1. Two nylon supply tubes from air-cooling panel to detector with disconnect at detector
    - OD of supply lines yet to be determined as Hall B Engineering is modifying setup to use larger diameter supply tubing
    - One supply line goes to right cable way on detector shell, second supply line goes to left cableway on detector shell
2. Each supply line continues down cableway to electronic panel (EP)
3. In EP, the nylon supply lines connect to a ½"-OD, stainless steel pipe manifold that directs airflow over electronics
    - Overall length of manifold will be 44"
    - The size, position, and number of the holes on manifold to distribute the air in the EP will be determined after tests in cleanroom

4. EPICS server and CSS-BOY user screen development in progress

1. EPICS server added to hardware interlock system sbRIO
2. EPICS PVs generated programmatically by sbRIO's LabVIEW program based on network variables used in program
    - PVs follow naming convention used in RICH-I
3. CSS-BOY user screen developed for monitoring
    - Used CSS-BOY linking containers widgets and macros to place items for each sensor without having to manually type in all PV values



CSS-BOY user screen running on development PC.