DSG-RICH R&D Meeting

Date: February 14, 2022
Time: 11:00 AM – 12:00 PM

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

1. **Spherical mirrors**
    1. Mirror shipment delayed due to issues with shipping insurance
    2. Fabrication of new mirror support parts underway
        - 12 of 36 parts complete
    3. Received ball joint rod ends for spherical mirror support

2. **Chassis to house hardware interlock system**
   Mindy Leffel, Tyler Lemon, and Marc McMullen
    1. Mindy Leffel has finished chassis assembly
    2. Tyler Lemon will perform a full 48-sensor test of chassis

3. **Gas system supply lines inside detector**
    1. All tube/pip dimensions and specifications will be verified
    2. N_2 supply lines
        - RICH-1: ½" OD nylon tubing input to manifold with several ¼" OD tubes for internal distribution
    3. Air cooling supply lines, manifold, and mating parts
        - RICH-1 supply lines:
            – 16-ft long, ½" OD nylon tubing
            – Larger OD tubing may be used
        - RICH-1 manifold:
            – 44-inch long, ½" OD stainless steel pipe with 10 two-millimeter orifices spaced along length
            – Same manifold will be used

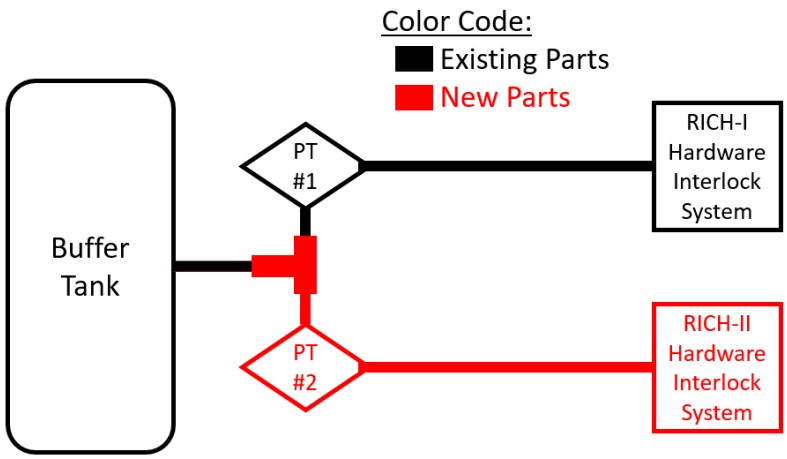
4. **Gas system distribution plan for EEL**
    1. Hall B Engineering making arrangements to bring and set up all components in EEL
    2. N_2 supply:
        - Duplicate manifold to supply one overall supply line to RICH
    3. Air cooling:
        - One remaining original RICH compressor will be moved to EEL
        - Entire air distribution panel and buffer tank will be moved to EEL

5. **Gas system distribution plan for Hall B**
    1. Hall B Engineering making arrangements for new components
    2. N_2 supply:
        - Use unused channel on existing manifold
        - Mass flow meter on manifold will be connected directly to RICH-II hardware interlock system
    3. Air cooling:
        - Two new, larger RICH compressors
            – One already on hand, second's procurement is underway

- New panel will be assembled to add two additional air-flow channels for RICH-II
  - Two new mass flow meters will be connected directly to RICH-II hardware interlock system
  - Read out of pressure transducer on buffer tank needs some thought

6. Air-cooling system's buffer tank pressure transducer (PT) readout in Hall B

1. One buffer tank will be used for RICH-I and RICH-II
2. There is one PT on buffer tank that monitors its internal pressure
3. To maintain independence of RICH-I and RICH-II hardware interlock system, a duplicate PT should be added to buffer tank
   - RICH-I hardware interlock system would only use PT #1
   - RICH-II hardware interlock system would only use new PT #2



System sketch of PT set up on buffer tank