Detector Support Group
Weekly Report, 2019-01-23

Summary

Hall C EPICS

- New CAEN SY4527 mainframe set up for EPICS development and testing.
  - ✶ Eight CAEN A7435SN 3.5-kV, 3.5-mA HV cards installed in mainframe.
  - ✶ Able to correctly identify mainframe and HV cards using mainframe's web control interface.
- Python script being developed to replicate TCL/TK HV screens' Perl scripts.
  - ✶ Existing TCL/TK scripts call a Perl script to generate a text file containing HV channel mapping.
  - ✶ Python script will replace Perl script and be integrated into previously developed *tcl2css* program.

Hall C PLC

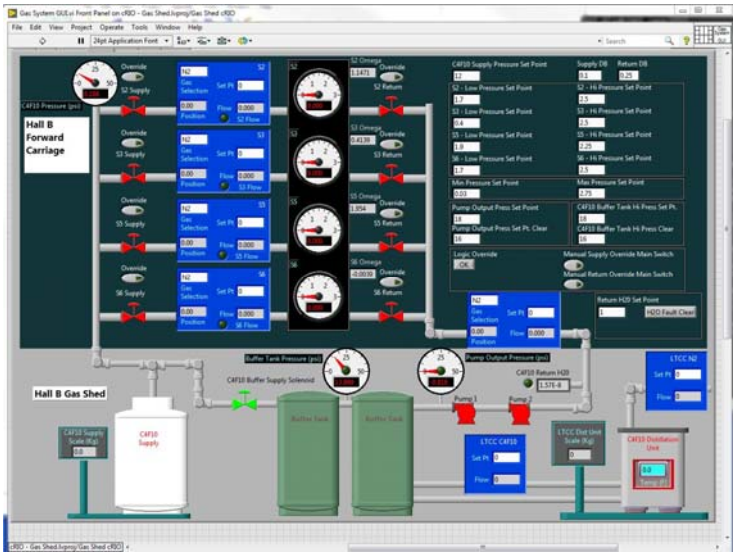
- HMS PLC system's communication to EPICS debugged.
  - ✶ Firmware version 20.058 on HMS PLC was not compatible with KEPServerEX settings.
    - ▪ KEPServerEX runs on Skylla7 Windows 7 server and acts as IOC between EPICS and PLC.
  - ✶ Resolved communication errors by downgrading HMS PLC controller firmware to version 20.055.
    - ▪ Version 20.055 recommended in KEPServerEX help forum.

Hall B Magnets

- Solenoid Pre-power-up interlock checkout procedure (B00000400-P005) completed.
- Torus Pre-power-up interlock checkout procedure (B00000401-P027) completed.
- Torus FastDAQ cRIO (model 9067 cRIO) replaced with a model 9045 cRIO.
  - ✶ cRIO replaced since 906X models have a history of failure.

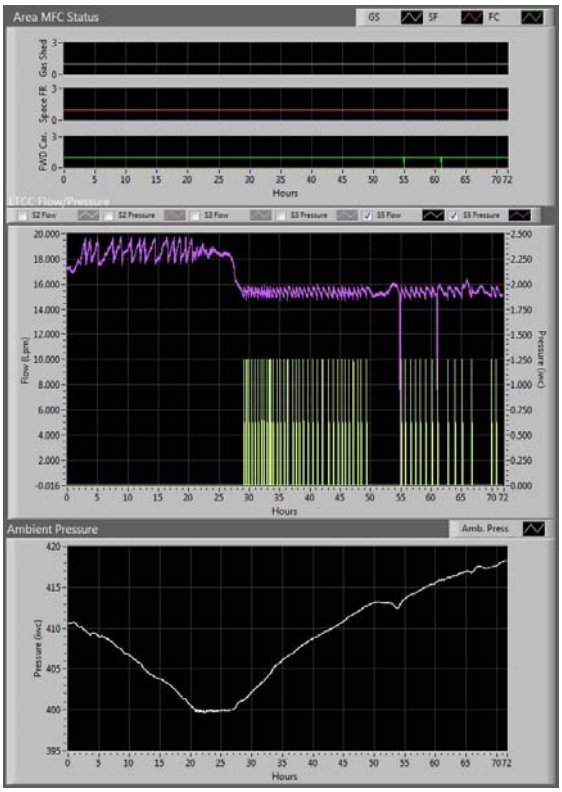
LTCC

- PVs for LTCC "recirculation" system added to IOC and Mya.
- Gas Shed cRIO GUI updated to reflect new LTCC gas system.
  - ✶ Gas Shed GUI now has same features and controls as standalone LTCC controls GUI.



Gas Shed GUI with updated LTCC GUI.

- Sector 5 filled with N_2 to 2.4 IWC on January 18, 2019 for test of new gas system controls.
  - ✶ System operated as expected during large change in ambient pressure over three days.



Three graphs from the Daily Gas Report display from January 19 – January 22, 2019.
Top: MFC status. Middle: S5 pressure (pink) and flow (green). Bottom: Ambient Pressure.

HDice

- IBC magnet quenched – solutions for high-current running under investigation.
- Oxford Instruments control module for Dilution Refrigerator failed.
  - ✶ No direct replacement available from manufacturer.
- Documentation needed for the upcoming review:
  - ✶ Operator's manual for the NMR system
  - ✶ Equipment manuals
  - ✶ Rack and RF box schematic

cRIO Test Station

- Integral nonlinearity, offset error, and automatic tests of cRIO module 9215 completed.
  - ✶ All tests for module 9215 completed.

Accelerator Division

- One of six VME FSD boards for Machine Protection System populated.