



Detector Support Group

Weekly Report, 2019-01-30

Summary

Hall C EPICS

- Different methods of alarm system implementation investigated for new CS-Studio (CSS) HV controls system
 - ★ Options include in-house developed program (e.g., Python, Java), EPICS ALH, and CSS BEAST
- PV alarm indicators investigated for WEDM.
- Development continued of Python script to generate CSS screens from CSV list of PVs.
- Ability to generate channel map, group map, and alarm handler configuration files added to *tcl2css* Python program.
 - ★ Channel map and group map used for hardware debugging by Hall C technicians.
 - ★ Alarm handler configuration read into Hall C's alarm handler to define alarm limits.

Hall C PLC

- Firmware upgraded on PT2026 model NMR precision teslameter (NMR unit).
- PT2026 NMR unit tested by ramping HMS Dipole to field.
 - ★ NMR unit would not get a lock above ~1.7 T
 - ★ Only one version of the Metrolab provided software can be run at a time.
 - Opening multiple instances causes all instances to timeout, requiring unit to be rebooted.
- DSG note written on differences between old PT2025 and new PT2026 NMR units.

HDice

- Communication issues between instrumentation and new Windows 10 PC resolved.
 - ★ CAENels CT-box drivers for Windows 10 installed on PC.
 - ★ RS-232 communication issues with the RF-Box fixed.
- Successfully tested NMR (2,000 sweeps) and FRS programs on new Windows 10 PC.

Hall B Magnets

- Torus pre-power-up instrument checkouts (-P025) completed.
- Solenoid pre-power-up instrument checkouts (-P003) completed.

RICH

- Cable with D-sub connectors fabricated for N₂ backup manifold.
- Hardware interlock program updated to read two pressure transducers (PTs) on N₂ backup manifold.
 - ★ Manifold yet to be installed or PTs wired to cRIO – waiting on Hall B Engineering to install manifold on N₂ panel.

LTCC

- New LTCC PVs added to EPICS IOC and Forward Carriage (FC) cRIO.
- Sector 3 has been filling with C₄F₁₀ since January 22, 2019.
 - ★ ~68.5 kg of gas have been transferred to sector (52 kg remaining in tank).
- Gas System LabVIEW program modified to record set points in a configuration file.
 - ★ New configuration file will replace the hard coded values for each set point, allowing points to be automatically saved as they are changed on GUI.
- H₂O sensor received and reprogrammed to output 4 – 20 mA signal to indicate water concentration from 0 – 3000 ppm.

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Hall B Gas

- FC cRIO software updated from 18.0 to 18.5 and firmware updated from 6.0.0f1 to 6.5.0f0 in attempt to fix the cRIO's frequent self-reboots.

HTCC

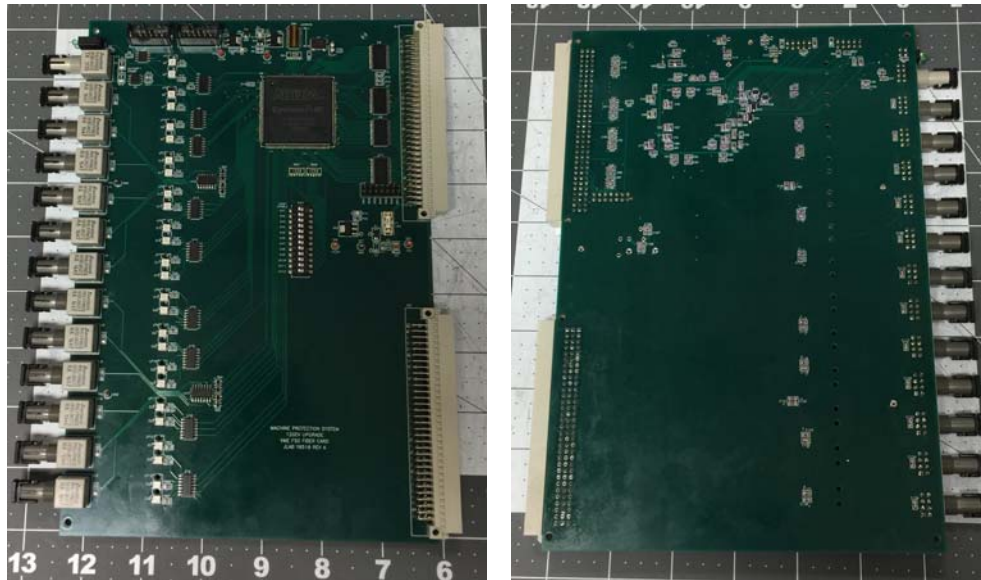
- HTCC will switch back to using a mass flow controller (MFC) prior to the run.
 - ★ Hall B will contact DSG when switch is completed to provide set point for gas controls system.

Hall A HCAL

- Meeting and walk-through held on cable processing and routing.
 - ★ Bogdan Wojtsekhowski (Hall A project lead) informed of pre-job safety requirements.

Accelerator Division

- Population of one of six VME FSD boards continued for Machine Protection System.



VME FSD board for Machine Protection System.
Left: Front of board. Right: Back of board.

cRIO test station

- NI-9263 analog voltage output module wired for test station development.
- Keithley 2002 multimeter and its LabVIEW drivers prepared for NI-9263 tests.

PLC Test Station

- Inventory of PLC modules used in Hall B, Hall C, and Hall D control systems completed.
 - ★ PLC layouts for each system updated.

DSG Website

- Technical documentation area and directory structure created for website.
 - ★ Index pages and links formatted for all pages in technical documentation area.