

HALL C PLC TASKS REPORT (05/16/2018 – 05/23/2018)

- After discussion about the proposed Hall C PLC task list, DSG assigned the following persons to compete the tasks:

Task #	Description	Person
1	Interactive HMI data logging upgrade installation and operation	TBD
2	End of life for Windows 7 upgrade to Windows 10	TBD
3	Develop “on loop” current regulation routine	Tyler
4	Add HMS “spectrometer vacuum” controls	Tyler, start on 5/29/2018
5	Modify SHMS shutter not installed status	Amanda, start on 5/31/2018
5	Connect to system and program UPS status	Tyler
6	Tune valve PID	Brian
7	Rewire and program SHMS LVDT I/O modules to single ended	Pablo
8	Program PLC communication with new NMR units	Pablo, Tyler, Peter (In progress)
9	Add HMS Quadrupole hall probe readouts to PLC	Brian
10	Add HMS Shutter controls and status	Amanda, start on 5/31/2018
11	Add spectrometer rotation electric break control	Brian
12	Remote alarm notification to on-call support staff	Amanda
13	Re-program for replacement SHMS LHe/LN2 meters	Amanda
14	HMS & SHMS Dipole field regulation routine	Pablo

- With regards to task # 8, the NMR Tesla Meter PT2026 communication with the PLC.
 - ★ Downloaded latest manual v2.1 released on 07/2017.
 - ★ Installed MetroLab PT2026 software to set up USB connection with NMR PT2026 Tesla Meter.
 - Tested USB communication with software installed.
 - ★ Installed USB drivers in the DSGPLC1 and dsg-hallc-2 PCs
 - ★ Updated PT2026 Tesla Meter firmware to V 2.6.
 - ★ Investigated communication interfaces available on PT2026 Tesla Meter.
 - Found that Modbus protocol is not implemented in the unit.
 - USB and Ethernet interfaces available.
 - ★ Requested IP address to add NMR Tesla Meter and 490 NBX modules on the Hall C Dev subnet.
 - PT2026 Tesla Meter MAC address not visible on its hardware.
 - Found MAC address by connecting NMR PT2026 Tesla Meter with an Ethernet cross cable.
- Created a new folder named “dsg-hallc_controls” in M: drive.
 - ★ Folder is intended for storage of HMS or SHM PLC code.
- Created new GitHub repository for storage of HMS and SHMS PLC codes
 - ★ GitHub allows access only to members.
- Submitted PR 377179 for two RSLogix 5000 licenses.
 - ★ The cost for each license is \$ 6580.
 - ★ Licenses support from version 16 to version 31.
 - ★ Quotation for PR submitted is valid for thirty days.
- Configured five computers on Hall C Development subnet.
 - ★ Computers rebuilt with Windows 7.
 - ★ Installed RSLogix 5000 (v. 16.04) using “skylla7” as license server.

- Generated HMS PLC layouts for eight chassis as part of the documentation needed to start PLC tasks.
 - ★ Initial PLC layout spreadsheet contains detailed information about the description and location of the controllers, PLC I/O modules and Network modules.
- Reviewed HMS PLC program's NMR and Rotation routines.
- Created HMS PLC network map to show communication connections between all HMS instrumentation and devices.