

HALL C PLC TASKS REPORT (08/08/2018 – 08/15/2018)

Hall C - PLC Tasks List							
Item	Description	Priority	Primary Person	Start Date	Status	Comments	Suggested Duration (days) by Hall C
1	HMS & SHMS Dipole field regulation routine	1	Pablo	14-Jun-18	In Progress	Testing 1st version of PLC code with fake tags for NMR magnetic field and MPS current readouts	10
2	New NMR communication through PLC to PSU	1	Brian	10-May-18	In Progress	NMR installed in Hall C dipole, ran cable from NMR unit to HMS rack to power cycle NMR remotely since it frizzes most of the time due to firmware issues.	5
3	Test Ethernet vs Controlnet interface.	1	Pablo	7-Jun-18	Completed	Completed on 06/13/ 2018	N/A
4	Swapping of Controlnet by Ethernet modules in SHMS	1	Pablo Brian	3-Jul-18	Completed	Completed on 7/13/2018	N/A
5	Add spectrometer rotation electric break control	2	Hall C	N/A	Completed	Completed on 08/03/2018	5
6	Add HMS Spectrometer Vacuum to controls	2	Tyler	29-May-18	Completed	Completed on 07/23/2018. To be downloaded to PLC by Steve or Mike.	2
7	Data Logging upgrade, install and make operational	2	Pablo	12-Jul-18	Waiting	Access to SHMS and HMS HMI screens denied	20
8	Develop "on loop" current regulation routine for quads' (3) PSU.	2	Amanda	14-Jun-18	Completed	Completed on 08/06/2018. Sent PLC code with modification required, waiting to be checked	10
9	Tune valve responses	2	TBD	-	Not started	Need more information	5
10	Wire UPS status to controls	2	Tyler	30-May-18	In Progress	Waiting for Hall C to decide the PLC channel assignment to make final modifications in the PLC code. Fabricated the two cables with 25-pin D-sub connectors needed to monitor the HMS and SHMS detector hut UPS units	2
11	Modify SHMS shutter not in place status	2	Hall C	N/A	Completed	Completed on 08/03, 2018	1
12	Add HMS shutter controls and status	3	Hall C	N/A	Completed	Completed on 08/03, 2018	1
13	Alarm notification to on-call staff	3	TBD	-	Not started	Should be done in EPICS	4
14	Add HMS quadrupoles hall probe readouts to PLC	3	Tyler	17-Jul-18	Waiting	Email sent requesting information on task, probes and availability of spare probe	3
15	Change SHMS LVDT I/O module from Differential to Single ended	3	TBD	-	Not started	Need information about available hardware	4
16	End of life for Windows 7 upgrade to windows 10 (next year?)	4	Pablo	12-Jul-18	In Progress	RSLOGIX5000 upgraded to v20 on Skylla7. Computer center needs to upgrade Skylla to windows 10.	10
17	Upgrade SHMS PLC from version 16 to version 20	1	Pablo Brian Amanda Tyler	3-Jul-18	Completed	Completed on 7/13/2018	N/A
18	Upgrade HMS PLC from version 16 to version 20	N/A	Pablo Brian Tyler	19-Jul-18	Waiting	Identified modules needed. Waiting for Hall C to procure the modules.	N/A

- PLC program for dipole field regulation in progress
 - ★ Testing first version of PLC code with fake tags used to simulate NMR magnetic field and MPS current readouts.
 - ★ Modified HMI screen created to test PLC code.
- Installed PT2026 NMR unit's probe on top of HMS Dipole
 - ★ Got a lock at ~1.4 [T]
 - ★ Placed NMR PT2026 unit under the floor of the HMS hut.
 - ★ Configured Ethernet communication for the NMR.
 - Assigned new Hall C IP address (129.57.165.20) to NMR unit.
 - Ran Ethernet cable from HMS Ethernet switch in the Hall C hut to NMR unit.
 - ★ Found right spot for NMR probe at the top of the HMS Dipole.
 - Ran cable through floor penetration to probe placed at peak field location in HMS dipole.
 - ★ Readouts got for PT2026 NMR probe were close to the value of the existing NMR on the PT2025
 - PT2025 NMR ~14027 [gauss]
 - PT2026 NMR ~14044 [gauss]
 - ★ Ran remote reset NMR cable from Aux port at NMR to HMS Dipole I/O Rack.
 - Cable allows the NMR unit to be reset remotely from the PLC
 - Unit froze several times due to the firmware issues not solved in this unit.
 - Verified that cable works by power cycling NMR unit
 - Shorted cable after it was connected to the terminals in the AUX port.
 - Waiting for Hall C to connect the cable on one of HMS PLC relay channel.
- With regards to Windows 7 upgrades to Windows 10.
 - ★ Sent PR #379205 to acquire new graphics card for dsg-hallc-6 PC.
- Developed wiring/cabling plan for UPS monitoring.
 - ★ DSG will fabricate and run cables to racks in Hall C.
 - ★ Hall C will be responsible for making final connections to terminal blocks or PLC.
- Continued development of Python Danfysik Magnet Power Supply simulator.
 - ★ Improved error handling of version 1 of program.
 - ★ Adding in functionality to respond to status queries in the same syntax as an actual Danfysik power supply.
 - ★ Developed test program in LabVIEW as a PLC stand-in.
 - Using LabVIEW program is a simpler way to observe responses from and send commands to Python MPS simulator.
- Modified current loop regulation program to take into account appropriate units.
 - ★ Made PDFs of changes in current field regulation program for SHMS and HMS.
 - ★ Tested modifications of PLC code by using Danfysik simulator running in Python.
- Generated table with details about Hall C Human Machine Interface Software licenses running on Skylla7 Server.
- DSG is waiting for information from Hall C on:
 - ★ What they mean by "Valve tune responses"
 - ★ Data logging access
 - Steven Lassiter denied the request to access HMS and SHMS HMI screens.
 - Work cannot start on the data-logger task until access is given.
 - ★ SHMS LVDT I/O module.
 - ★ HMS quadrupoles specifications.