

## HALL C PLC TASKS REPORT (09/13/2018 – 09/19/2018)

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	Completed	Completed on 09/13/2018. To be revised by Mike Fowler	10
2	New NMR communication through PLC to PSU	1	Brian	10-May-18	In Progress	Waiting for dipole magnet to be ramped up to test functionality. Added code in SBC card to handle "Locking" NMR conditions	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	Holding	Denied access by Hall C; unable to access SHMS and HMS HMI screens	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 required modifications.	10
9	Tune valve responses	2	Amanda	-	Not started	Need more information	5
10	Wire UPS status to controls	2	Tyler	30-May-18	Completed	PLC program completed, information about the connections, wiring and drawings required was completed on 09/13/2018	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		-	Not started	Should be done in EPICS	4
14	Add HMS quadrupoles hall probe readouts to PLC	3	Hall C	N/A	Completed	Completed on 08/29/ 2018	3
15	Change SHMS LVDT I/O module from Differential to Single ended	3	Amanda	-	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	Upgrade DSG-HALLC-6 PC to windows 10. Installing Rockwell software in progress	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	Communication and Redundancy modules received, waiting for fiber optic cable to connect redundancy modules between primary and secondary PLC chassis	N/A

- Dipole field regulation PLC program completed.
  - ★ Conditions to start/stop regulation routines added, based on PSU read-back status.
  - ★ Filtering option for magnetic field readouts from PT2026 NMR unit completed.
  - ★ Comments added for each of the three routines:
    - Dipole\_Field\_Regulation: Main routine, used to control regulation logic needed to start/stop regulation, set operational limits and calculate field offsets.
    - Calculate\_DI\_Current: Routine calculates and sends to the MPS the required current which is based on magnetic field.
    - NMR\_Read\_B: Routine used to read the magnetic field and status from the PT2026 NMR unit.
  - ★ Program tested with Danfysik Python simulation program and HMI test screen.
- For 'End of life of Windows 7 and associated upgrade to Windows 10' task:
  - ★ Dsg-hallc-6 computer was rebuilt with windows 10.
  - ★ Changed graphics card.
  - ★ .NET Framework 3.5 installed; pre-requisite to install Rockwell Software.
  - ★ RSLogix5000 v.20.04.01 installed.
- Current Regulation PLC program for the HMS and SHMS quadrupoles tested using Danfysik Python simulation program.