

Hall C PLCs Task Information Meeting

Date: June 21, 2018

Time: 1:30PM – 2:30PM

Attendees: Peter Bonneau, Pablo Campero, Brian Eng, Amanda Hoebel, Mike Fowler, and Tyler Lemon

1. SHMS and HMS Dipole field regulation task.

- a. Discussed about Mike Fowler's note provided for Dipole field regulation.
- b. Agreed that new PLC routine will be written to replace all regulation operations performed at this time by the RG2024 regulation module.
- c. Two modes to receive input data (magnetic field) will be required in the Regulation PLC routine:
 - i. Manual mode: Allows operator entering set point value form HMI screen.
 - ii. Calculated mode: Calculated values for the input field (set point) are provided by data send from script running in EPICS.
- d. Regulation PLC program will control the starting and stopping of the regulation operations.
- e. To calculate correction values for the field regulation, formulas and information from RG2024 regulation manual can be used.
- f. Possible generation of new operation HMI screen to control and monitor Dipole field regulation.

2. NMR PT2026 communication with PLC

- a. DSG shows current status of configurations and code running on the SBC card.
 - i. Installed and running Debian Linux on SBC.
 - ii. Assigned IP address (129.57.195.33) on the Hall Dev subnet.
 - iii. Running Python code with VXI-11 drivers on SBC to communicate with PLC and NMR.
 - iv. Tested SBC unit communications (NMR>SBC>PLC); read temperature every 1 s from the NMR PT2026 unit over the night. No issues found.
- b. Agreed that NMR PT2026 will send only Dipole magnetic field readouts to the PLC via SBC card. No other data need to be read from NMR unit.
- c. Discussed about the issues with the PT2026 NMR when it gets "freeze" once in a while.
 - i. Determinate that the issue is due to firmware running in the NMR unit. It seems to happen randomly when VISA open and close connections.
 - ii. When NMR unit crashes, there is only one way to get it back to its normal functions, and it is by unplugging manually the power source.
- d. Mike Lassiter mentioned that PT2026 NMR unit will be tested under radioactive conditions once it is located in Hall C.

3. Status of implementation of the UPS in the SHMS and HMS PLC controls.

- a. Mike Fowler suggested contact Steve Lassiter to schedule implementation.
- b. Tyler Lemon will check if implementation of new relay card for ACP UPS (located on hall C counting house 2nd level) will cause the PLC going off line.
 - i. In case PLC needs to go off line, then proposed time scheduled to perform the implementation of the relay card in the UPS, would be made at the same time of the implementation of the two new Ethernet modules in the SHMS system.

4. Shutter controls and monitoring discussed

- a. DSG mentioned the findings after discussion with Joe Beaufait, they were:
 - i. For SHMS shutter available: Fully opened status gives 24V read-back; installed and fully closed, and uninstalled give 0V read-back.

