

## DSG Weekly Report – May 27, 2015

### Antonioli, Mary Ann:

#### Hall B

##### LTCC

- Coordinating and overseeing project activities:
  - Component preparation, divider board fabrication, PMT base assembly, and Winston cone's reflectance tests.
- QC-ed fabrication and assembly of 16 reworked PMT bases.
- Updated spreadsheets on PMTs.

##### HDICE

- Attended the daily program development meeting.
- Programming in LabVIEW rotation of target polarization.
  - Spread-sheeted test results.

#### Hall D

##### Meeting

- Attended DSG group's daily meeting on magnet and detector performance.

### Arslan, Sahin:

#### Hall B

##### DC

- Sorted and unbundled signal cables.
- Measured and reorganized signal cables by length (with Anatoli).

##### SVT

- Replaced N<sub>2</sub> cylinder.

### Bonneau, Peter:

#### Hall B

##### HDICE:

- Conducted bi-weekly slow controls status meeting. Issues discussed:
  - Testing of the short NMR cables ordered by DSG.
  - Ordering of the long NMR cables (40-50 ft.).
  - At the request of the HDice group, DSG is investigating if the company will sell components and tooling necessary to make assemblies at Jlab.
  - *Craig Thorn has agreed to have periodical video conferences. He only works on Tuesday and Wednesday and is retiring in January 2016.*
- Reviewed procedure of NMR field sweep programming.
  - Currently the power supply is given a ramp rate and final operating current. When the ramp is started, the locking amplifier is software triggered. Methods on how to improve this procedure and the modifications needed when the new current shunt / CAEN CT-box are incorporated in the system was discussed.
- Conducted the daily meeting on program development.
  - Items reviewed this week in the daily status group meeting include the test results for the revised and re-built RF Attenuator/Switching chassis and on the rotation of target polarization.

##### SVT

- Added 4 new temperature/humidity boards and coolant flow meter for R4 to EPICS signal lists.
- Researched and ordered components for Hardware Interlock System
- Evaluated cRio hybrid operating mode.
  - Combination of FPGA/Scan mode must be used in, usually, "scan mode only projects". This is so because C-modules such as the 8 Channel NI 9216 RTD only supports FPGA mode.

## Hall D

### Meeting

- Attended DSG group's daily meeting on magnet and detector performance.
  - Discussed testing of solenoid at 300 A and solenoid PXI EPICS screens.
  - Examined status of slow control systems on a daily basis.

## Butler, Dave

### Hall B

#### Gas System

- Researched and submitted five PRs for controls hardware.
- Modifying MKS mass flow controller driver software to accommodate multiple flow controllers.

## Hall D

- Assisted Hall D technical staff in testing voltage taps' noise levels.
- Changed PLC code to accommodate switching of vtt19 and vtt17 wiring to compare the difference in readings on the 30X attenuator module and the non attenuated modules on the ADC cards in the PXI.
  - Disabled software quench detector due to the swapped wires and the imbalance in the coil ratio algorithm.

### Meeting

- Attended DSG group's daily meeting on magnet and detector performance.

## Eng, Brian:

### Hall B

#### SVT

- Investigating possibility of upgrading VME controllers to CentOS 7.
  - Initial results aren't promising since some process filesystem functions were obsoleted/removed so compiling the kernel driver fails. A quick/simple swap of functions allows it to compile, but fails to load.
- Investigated why R3M5B tripped.
  - Found it was due to HFCB temperature – due to a single reading. Reading immediately went back to prior temperature before it was turned off.

#### HDICE

- Attended bi-weekly status meeting.
  - Discussed initial cable results look promising, need to do a few more tests before ordering longer length. Contacted vendor about possibility of tooling as well as lead times.
  - Xiangdong finally got in touch with Craig Thorn from BNL, will have a teleconference later in the week.

## Hall D

- Investigating noise from voltage taps on PXI.
  - *Modules are overdue for calibration; don't appear to be connected as per the NI manual and no filler panels are installed in chassis. Also all the "bad" channels are the taps connected to the 30X attenuation terminal block.*

### Meeting

- Attended DSG group's daily meeting on magnet and detector performance.

## Jacobs, George:

### Hall B

#### Gas System

- Determined O<sub>2</sub> sensor, OXYIQ-2110, to order.
  - For use with DC and HTCC gas mixtures.
- Disconnecting and removing obsolete components from racks in the gas shed.
  - Disconnected Panametrics moisture monitor, VME crate with ADC inputs, ADC terminal blocks 2M50FC, MKS 146C PID controllers.
- Determined critical path plan for LTCC window test.
- Determined cable length requirements for MFC, pressure transducer, and valve driver.

## **Hall D**

### **Meeting**

- Attended DSG group's daily meeting on magnet and detector performance.

## **Leffel, Mindy:**

### **Hall B**

#### **LTCC**

- Reworked 18 PMT bases.
- Training:
  - Completed - CMSA Use Training (GEN151kd), Local Driving Conditions (GEN400), and Multi-Passenger Vehicle Training (GEN403)
  - Reviewed section 6150 Appendix T2 of the EH&S manual on Moving Gas Cylinders from Building Storage to Work Area and informed Bert

## **Mann, Tina:**

### **Hall B**

#### **LTCC**

- Installed 4 PMT boards
- Troubleshooting reflectance test stand with Mauri for Winston cone calibration
- Aligned pinholes of the reflectance test stand for calibration and mirror tests
- Tested reflectance of 2 Winston cones from ECI

#### **DC**

- Separated signal cables at the ESB.

## **McMullen, Marc:**

### **Hall B**

#### **Gas System**

- Submitted 3 PRs for the purchase of PID/Controls chassis components.
  - Each chassis interfaces signals between system sensors and cRIOs, supplies power to the mass flow controllers, and provides a mounting location for the hygrometers on the space frame and in gas shed.
- Drawing in AutoCAD design of controls chassis.

## **Sitnikov, Anatoly:**

### **Hall B**

#### **DC**

- Unbundled, measured, sorted and re-bundled 50 bundles of signal cables.

## **Teachey, Robert Werth**

### **Hall B**

#### **HDICE**

- Coded RF Attenuation/Switching chassis' control software sub vi for LabVIEW 2015.
- Moved equipment from the HDICE Lab's NMR spare rack to EEL Rm 121.
- Completing safety steps needed to operate magnet power supply in Rm 121.
- Analyzing attenuation and switching test data of RF Attenuation/Switching Chassis.
- Attended the daily program development meeting.