

# DSG Weekly Report – May 5, 2015

## Antonioli, Mary Ann:

### Hall B

#### LTCC

- Coordinating and overseeing: preparation of components, fabrication of divider boards, assembly of PMT bases, testing of Winston cone's (WC's) reflectance, and receiving and moving of WC's to TEDF, for this **project**.
  - Tina's work on PMT bases and WC testing.
  - Sahin's testing of WCs and repacking of WCs in boxes.
  - Mindy's rework of PMT bases and repacking of WCs in boxes.(assisting Sahin.).
  - Anatoly's work on divider boards and PMT base covers.
- QC-ed 40 reworked **PMT bases**.
- Computed reflectivity averages of 6 re-coated **WCs**.
- Accounted and updated spreadsheets of work done on **LTCC components**.
- Updated spreadsheet with **WC** locations (ECI, EEL 108, TEDF).

#### SVT

- Testing **EPICS Slow Controls Interlocks**.
  - R4 LV analog: modules 11—24 completed. All tested OK
  - R4 HV, modules 1—16 tested.
    - For four modules, LV not shutting down as expected. Problem reported to Sue Witherspoon. Testing halted.
  - Tested humidity alarm.
    - When alarm value entered, communication with the modules was lost and interlocks software continued to randomly turn on and off voltages of the modules. Testing halted and problem reported to Sue Witherspoon.

#### HDICE

- Attended the daily **program development meetings**.
- Fabricated 5 “keys” to be used with the **RF Attenuation/Switching (RFA/S) chassis**.
- Programmed in LabVIEW scale factor, to be used for testing **RFA/S chassis**.

### Hall D

#### Meeting

- Attended daily meeting on **magnet and detector performance**.
  - Looked at magnet quench problems, strain gauges, and interlock status.

## Arslan, Sahin:

### Hall B

#### LTCC

- Received and checked in **WCs** from ECI.

- Testing calibration and mirror alignment of **WCs**.
- Transferred to TEDF building **WCs** for assembly.
- Reorganized **WCs** by sector numbers **WCs**.

## **Bonneau, Peter:**

### **Hall B**

#### **SVT**

- Tested for possible ground line noise problems with the **Hardware Interlock System** when it is connected to the EPICS hardware at the same patch panel.
  - No extra noise found on production module when cRio ADC and V450 ADC were connected.

#### **HDICE**

- Conducted daily meeting on **program development**.
  - Items reviewed this week include the RFA/S chassis test program.
- Updated flow description of the **Rotation of Target Polarization** program.

### **Hall D**

- Attended daily meeting on **magnet and detector performance**.
- Examined status of **Slow Controls Systems** on a daily basis.

### **DSG**

- Completed modification of **dsgslowc group** via the computer center.
  - Modification allows DSG group members to modify read/write access to the DSG Slow Controls directory on the “M” drive.

## **Butler, Dave**

### **Hall B**

#### **Gas System**

Configuring and testing the **cRio 9035** from National Instruments.

#### **SVT**

- Attended the weekly **status meeting**.

### **Hall D**

- Provided for troubleshooting magnet quench of 5-2-2015 **PLC and PXI data**.
  - There was a mismatch in the PXI and PLC time stamp in the data so it was discovered that the PXI only updates the time when the DAQ loop is initiated.
  - Brian Eng has downloaded the latest NI NTP software for the Real Time Linux and will try to install it today.
  - Brian and I removed the controller from the PXI so that we could clone the hard drive.
- Attended the **FDC** and **Beam Readiness** meetings.
- Attended daily meeting on **magnet and detector performance**.

## Eng, Brian:

### Hall B

#### SVT

- Installed strain reliefs for **R2** on optical table (and for **R1** again, after survey).
- Debugging register tests that failed on **R1M2** and **R2M2** due to partially inserted LV cable.
  - Added additional strain relief.
- Instrumented **R3** crates
- Fixed **Humidity Temperature Sensor Boards** 1 and 2.
  - Bad crimp on pin was causing intermittent contact.

### Hall D

#### Meeting

- Attended daily meeting on **magnet and detector performance**.
  - Slow controls meetings to go over CSS screens; Magnet: Cryo, Strain Gauges, Vacuum.
- Troubleshooting PXI time offset after solenoid quench (currently time is synched via NTP only on startup).
- Removed for RadCon survey **hard drive**.

## Jacobs, George:

### Hall B

#### Gas System

- Updated status spreadsheet with new **gas line and cable routing requirements**.

#### LTCC

- Placed PR for **nylon gas lines**, PR# 354120.
- Ordered miscellaneous fittings for **gas lines** via ecommerce.
- Requested quote for molecular sieve refills for **gas system filters**.
- Ordered replacement load cell readout for **C<sub>4</sub>F<sub>10</sub> supply tank**.
- Replaced molecular sieve filters in **C<sub>4</sub>F<sub>10</sub> distillation system**.
- Operated C<sub>4</sub>F<sub>10</sub> distillation unit to recover remaining C<sub>4</sub>F<sub>10</sub> from **return tank**

#### DC

- Placed PR for **nylon gas lines**, PR# 354120.
- Installed missing "cush" clamps on L1 space frame **gas piping**.

#### Meetings

- Participated in the **engineering meeting**.
- Attended **TDG meeting**, discussions included:
  - Rack installation under the subway, LTCC window test with C<sub>4</sub>F<sub>10</sub>,
  - Minimum C<sub>4</sub>F<sub>10</sub> purchase of 2000kg in order to start up and operate the system, C<sub>4</sub>F<sub>10</sub> initial cost ~\$500K, based on \$100/lb,
  - *Gas lines in cable trays*.

## Hall D

### Meeting

- Attended daily meeting on **magnet and detector performance**.

## Leffel, Mindy:

### Hall B

#### LTCC

- Sorted, with Sahin, **WCs**.
- Modified 42 **PMT bases**.
- Populated 24 **PMT divider boards**.

## Mann, Tina:

### Hall B

#### LTCC

- Assembled and soldered 24 **PMT divider boards**.
- Modified 11 **PMT bases**.
- Tested 9 **WCs**.
- Trained Sahin and tested, with Sahin, **WCs**.

## McMullen, Marc:

### Hall B

#### SVT

- Troubleshoot with Brian problems on two **modules**.
  - LV connectors unseat. After reseating connectors, ran register tests to verify solution.
- Routed individual **cable bundles**, and connected them to the crate sided connectors.
- Designed strain relief for the **R1 and R2 bundles**.
  - Ensured proper slack on the detector end and cinching the bundle clamps.
- Reconnected two **Humidity Temperature Sensor Boards (HTSB)** extensions and verified operation of board.
- Repaired two **HTSB** to extension cables.
- Connected the R3 **HTSB** connections to the patch panel.
- Estimated cost for a replacement of **Slow Controls patch panel**.
- Attended weekly **status meeting**.

#### Gas System:

- Drawing mechanical layout for the **proportional-integral-derivative (PID) chassis**.
  - In addition to PID connections and Hygrometer displays on the front panel, 15pin connectors will be added to supply voltage to the Mass Flow Controllers.

## Hall D

### Meeting

Attended **beam readiness meetings**.

## Sitnikov, Anatoly:

### Hall B

#### LTCC

- Punched 20 holes for **PMT base covers**.
- Assembled 127 connectors to **PMT base covers**.
- Soldered 144 resistors and 72 capacitors for **PMT divider boards**.
- Assisted Sahin with repacking **WCs**.

## Teachey, Robert Werth

### Hall B

#### HDICE

- Setup **LabVIEW Test Station** in the DSG lab, room 231.
- Debugged **RFA/S chassis'** inability to pass a "clean" 50 kHz sinusoidal signal.
  - Issue was that the chassis' internal signal splitter is specified for 1—200MHZ. Input signals out of that range severely degrades the signal.
- Programmed in LabVIEW, control driver for the NMR/AFP switch of the **RFA/S chassis**.
- Implementing LabVIEW switch control driver for the **RFA/S chassis**.
- Attended daily **program development** meeting.