DSG Weekly Report – Wednesday, January 28, 2015

Antonioli, Mary Ann:

Hall B

- Retested HFCB high temperature **SVT** EPICS interlocks.
  - Two of 20 channels failed.
- Tested 40 channels of LV **SVT** EPICS interlocks.
  - All passed.
  - Wrote procedure.
- Tested humidity **SVT** EPICS interlocks, (four sensors).
  - All passed.
- Tested ambient temperature **SVT** EPICS interlocks, (two sensors).
  - All passed.

DSG

- Completed **Note** 2015-001 *Data Analysis of Reflectance Measurements Performed on the Winston Cones of the CLAS12 Low Threshold Cerenkov Counters* and posted to website.

Arslan, Sahin:

Hall B

- Testing **SVT** production modules and HFCBs at Fermilab.

Bonneau, Peter:

Hall B

- Assigned silicon sensors for **SVT** production modules up to P87.
- Trained Mary Ann on test procedures for **SVT** EPICS ambient temperature and humidity interlocks.
- Reviewed requirements of the Hall B **gas systems** with Dave.
  - The distribution of MKS controllers and cRio systems is being calculated based on the location of the equipment in the gas shed and in the Hall.

Hall D

- Discussed with Hovanes **CSS / EPICS**.
- Discussed with Dave **PLC control screens** and location of the individual hardware components for the solenoid, FCAL, and FDC/CDC Gas system.

DSG

- Started installing software infrastructure on the test station PC for EEL 231.

Butler, Dave:

Hall B

- Trained Marc on the **gas system** controls that relate to the MKS gas flow.
- Met with Pete to discuss the overall **gas system** structure.
  - From a control system standpoint instead of by detector, I will sketch a block diagram of the gas shed and of the hall equipment for Mary Ann to redraw in AutoCAD.
- Began looking at MKS LabVIEW driver code for **gas system**.

Hall D

- Added a thermocouple channel to the **FDC/CDC gas system** alcohol bubbler refrigerator to monitor alcohol temperature.
  - It appears that the alcohol being added to the gas from the bubbler is affecting drift time and gain of the chambers. The alcohol temperature and the CO_2 levels in the chamber exhaust will be monitored.

Eng, Brian:

Hall B

- Got Mathematica code from Xiangdong for **HDIce** to upgrade code to newer version of Mathematica (was written for 5.0, current JLAB version is 9.0 with 10.0 available).
  - Missing NMR package which Xiangdong is attempting to locate, along with input data files.
- Met with Xiangdong and DSG to discuss **HDIce** priorities and get an overview of software functions.
- Completed the conversion for one of the **HDIce** Mathematica notebook files (RF Birdcage Coils.nb), and sent to Xiangdong to review.
- Went over **SVT** software for shifters with Dave and Marc.
- Started 3-crate **SVT** data run using 4 modules in cosmic stand.
- Fixed issue with spurious failures on Fermilab controller used in register test of **SVT** production modules. Failures occurred after upgrading VSCM FW to newest version (2.12)
  - Needed to add a delay after # of output lines changed due to reset of data serializer.
- Attended **SVT** Meeting

Hall D

- Attended **Controls meeting**, afterwards meeting with Dave and Yi regarding **Solenoid** PXI software.
  - Beni Zilman will handle fast DAQ analysis after Yi leaves.

DSG

- Troubleshooting EEL/121B power supply trips with Marc; moved a few tables to different outlet (and different breaker).

Jacobs, George:

FMLA

Leffel, Mindy:

Hall B

- Continued working on the **LTCC** Winston Cone calibration procedure.
- Worked with Tina to locate **LTCC** Winston Cones with missing test results.
- Completed 11 of the 22 D-sub cables for the **SVT** slow controls patch panel.
  - Cut all cables into five foot lengths.
  - Added heat shrink to both ends.
  - Stripped both ends of each wire (total of 1100).
  - Crimped contacts (550 female and 550 male).
  - Inserted contacts into connectors according to wiring diagram.
  - Tested continuity with meter.
  - Attached back shells.
- Terminated and tested all 12 **SVT** humidity-temperature-sensor-boards jumpers:
  - Cut all 48 cables (grouped into bundles of four) into 20' lengths.
  - Added nine pieces of heat shrink to each bundle.
  - Trimmed the outer jackets of both ends.
  - Trimmed insulation from both ends of each wire (total of 336).
  - Attached female contacts to one end and ferrules to the other end.
  - Inserted contacts into connectors according to wiring diagram.
  - Tested continuity with meter.

Mann, Tina:

Hall B

- Trained with Jennifer Williams on the paint booth to be used for cleaning the **LTCC** Winston cones that were returned by Evaporated Coating Inc. because of delamination.
- Created an Excel spreadsheet to track outgoing and returned **LTCC** cones.
- Worked on written procedure for testing **LTCC** cones.
- Tracked down and tested four missing **LTCC** Winston cones.
- Worked with Mindy on calibration and mirror test of the **LTCC**.

Hall D

- Went to Hall D **technician's weekly meeting**.

DSG

- Wrote LTCC **Note**.

McMullen, Marc:

Hall B

- Updated the **SVT** HFCB accounting spreadsheet.
  - Compunetics has delivered 125 *bare* HFCBs, 2 have been rejected, 103 have been accepted; QC tests on the remaining 20 are pending.
  - One hundred of the 105 HFCBs have been populated. Six of the 100 HFCBs have been held back from module production.
- Worked with Brian on **SVT** detector assembly test stand's electrical power distribution issue.
  - The P3A-26 circuit (Control Room wall side) was overloaded and tripped. Redistributed part of the load to P3A-27.

- Fifteen **SVT** HFCBs were QC-ed with Anatoly; 14 passed; #111 had resistance of 0.200 GΩ between top digital and LV return.
- Began 3D modeling of longest cable on **SVT** Rack Layout drawing using AutoCad.
  - Longest cable length will be 56', measured from the L-20 rack (lowest location) to the slow controls patch panel.
- Attended **SVT** Status meeting.
  - Discussed plans to move the detector assembly, new organizational structure of SVT management, progress of slow controls, and module production. Management provided info on the completion of HFCB manufacturing and population.
- Discussed gas systems with Dave Butler. Went over schematics for the CLAS12 **DC Gas System** and wrote a short description of the system controls, monitoring, and equipment.
- T. Mann observed airborne particulate caused from removing aluminum coating from **LTCC** Winston cone. Notified industrial hygiene and asked for guidance. Hygienist directed use of EEL 126 chemical hood and provided instructions on operation.

DSG

- Modified the EEL 124 cleanroom drawing using AutoCAD.
  - Added a safety boundary and the dimensions for the SVT detector assembly.
  - Sent the drawing to Hall B Engineering to help them determine the space available for the SLAC SVT detector during SVT assembly.
- Installed LabVIEW on PC, to be used for programming NI CRio controls equipment.

Sitnikov, Anatoly:

Hall B

- Measured current of 10 **SVT** HFCBs, without components, using Keithley 237 HV source meter and Probe Station.
  - Board #111(3-p6) failed.
- Visually inspected 14 **SVT** HFCBs using microscope.
- Made three cable bundles (five cables/bundle) for **SVT** Region 3 and six bundles for Region 4.

Teachey, Robert Werth:

Hall B

- Started to review my **HDIce** NMR system code to fill new HDice work request.

Hall D

- Specified and ordered a Hall D **PLC monitoring system** for EEL RM 231.
- Constructed cables for **detectors**:
  - The FDC Chiller BiRA remote reset to the Environmental PLC,
  - FCAL VESDA to FCAL PLC,
  - Barometric pressure sensor (located at the CDC gas panel) to the Environmental PLC.