

## DSG Meeting Minutes – 5/7/14

### Antonioli, Mary Ann:

- Fabricated the first SVT HV Mpod-to-distribution box cable.
  - Started fabrication of the second cable.
- Made changes to AutoCAD drawings for the SVT Geometry document.
- Attended a Hall B progress meeting held by Latifa.
- Completed Hall B Progress report and Steps report.
- Printed costpoint summary and obligated funds pages for all Hall B 12Gev codes.

### Bonneau, Peter:

- Successfully ran long-term stability test of the V450 ADC EPICS driver.
  - This test ran continuously over one week. Used the EPICS Channel Access Client (medm control screen) that was written in the previous week to monitor the V450 data obtained by new V450 hardware driver and record support. This program has an expert page listing all 180 process variables from the V450's simultaneously. The raw data is currently shown on this page, which updates at the programmed scan rate of 1 per second. The V450 test EPICS database will be expanded to allow the processing of the raw process variables into units (voltage, equivalent HFCB temperature, and RTD temperature).
- Reconfigured computer to be used for the VME-based V450 Programming for LabVIEW-based VME board tester for the V450 ADC.
- LabVIEW-based test program completed.
- Met with Mike Cole from Electrical Equipment Company and Colin Fradd from Rockwell regarding PLC software and hardware for Hall D target controls
  - They installed a temporary RSLogix 5000 PLC development license. This will be a floating dongle license enabling off-network PLC work.
- Requested a common storage area on the “M” drive for the Hall B/D Detector Support Group.
  - The directory called “DSG” has been added to the “M” drive. The group management editing utility for this directory was enabled and tested for my username.
- Updated, with Mary Ann, SVT signal spreadsheet for the change in sector identification numbering.
  - Only changes to the low voltage for region 4 were needed for this update.

### Butler, Dave:

#### **BCAL nitrogen flow controls**

- Received two flow meters to measure nitrogen flow to the upstream and downstream ends of the BCAL.
- Bench-tested and mounted flow meters in Hall D.
- Installed the PLC analog modules to read the flow meters.
  - Nitrogen flow will be ~20 L/min.
- Assembled and wired the Pair Spectrometer PLC controls for installation in Hall D.
  - This is a Point IO system that will monitor up to 8 thermocouples. This system will utilize the FCAL PLC processor.01
- Built a test circuit to test the FCAL light sensors.
  - Possible degradation is suspected over time. The sensor will be saturated and the output measured over time.
- Determining which process variables to archive in the PLC database or in EPICS and at what interval for slow controls.
  - There are 2328 variables in the Solenoid controls plus each detector control system will have fewer variables but will have to be gone through. (Not all variables will be archived)

### Eng, Brian:

- Updated Linux Kernel and VME driver on SBC @ FNAL.
- Updated elog code on that controller to use the parallel analysis code similar to the network SBCs @ JLAB, which saves ~2-3 minutes per module runtime.
- Set up Mac mini @ FNAL to automatically back up plots generated by SBC to the mini.
  - Normally would just use *crontab* to run a periodic command, but it's been deprecated in newer versions of OS X, so had to use *launchd* instead.

- Installed a gigabit switch in EEL/121B cleanroom for Hall B subnet.
  - Moved/added some devices to it, now can power cycle the VXS crate from outside the cleanroom and communicate with the MPOD (was previously on private network). Needed because once production ramps up will have more networked devices in the clean room.
- Testing electrical isolation of cold plate with Peter using Keithley 2002.
  - Isolation between adjacent copper heat sinks and the cold plate was more than a gigaohm, but cold plate and mounting/support tube weren't properly isolated (couldn't get a fixed number when using conductive rubber feet, but it was less than an ohm). This was due to the addition of some positioning dowels that weren't properly masked when the cold plate was coated with aluminum. The coating was removed and will be retested after re-assembly.
- Meeting with Matt Bickley from Accelerator (also Latifa, Sergey, Peter, Brian from Hall B) about the work they can do on supporting EPICS for the SVT.
  - After preliminary discussions, Matt doesn't see any issues with getting a basic version ready by July for R1 testing, but a more detailed meeting will be scheduled in ~2 weeks.
- Added an additional command-line option to add text to the title of elog entries.
  - Previously this was always fixed as "xyz - Gain Scan" with xyz being the device tested.


#### Jacobs, George:

- Meeting
  - About LTCC pressure protection bubblers with Bob Miller and Joe Guerra.
  - About DC work and testing in cleanroom (EEL room 125) and ESB With Mac
- Reviewed and signed off on edited drawings for the LTCC pressure protection bubblers and the LTCC hall valve panel.
  - Designer Joe Guerra, engineer Bob Miller
- Wrote up and got approved a Hot Work Permit for welding new gas lines.
- Continued to coordinate installation of the new DC gas lines running from 96B to Hall B.
  - Cryo techs: Dano Oprisko, Joshua Ingoldsby, Dontre Tucker; Welding QA: Jenord Alston; Fire Protection Engineer: Tim Minga
- Continued QA on R1S5 and R1S6 DCHV and DCRB testing.
- Preparing for assembly of the LTCC valve panel.
  - Locating old components and ordering misc. fittings.
- Installed N2 purge lines for PCAL.
- Copying 12GEV files to folder on M drive.
- Compiled wire tension specifications for CLAS12 DC.

#### Leffel, Mindy:

- Helped move 6' and 8' tables.
- Worked with Mary Ann to rearrange new work space(s).
- Reworked one more PMT.
- Working on humidity/temperature sensor disconnect.
  - Attached all contacts to cables on both sides of the disconnect.
- Researched pin extraction techniques and tools (extractors) for military spec. connectors.

#### Mann, Tina:

- Goniometer cables completed.
    - 2x30in connector cables
    - 1x30in connector cable
  - Started 5 kapton cables for goniometer
    - Cut the wires to length and installed pin sockets
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- Began installing Multi-Pin Instrumentation 32 Socket connectors.
- Repaired co-ax cable.

### McMullen, Marc:

- Performed post manufacturing QA on the last HFCB V2.1.
  - Visual inspection complete, resistance measurements taken with Keithley 2002 meter.
  - Current measurements taken in probe station dark box with Keithley 237 source meter.
- Trip to the HFCB/Bus Cable manufacturer, COMPUNETICS, and HFCB populator, COMPUNETIX.
  - Met with the manufacturer and discussed the status of the Bus Cable Panels and HFCB V2.2.
  - Bus Cable Panel has been plated and is in PPG resist photo imaging.
- Started design of SVT module assembly dark box using AutoCad.
  - Measured optical table and transport cart models to get a minimum size for the dark box.

### Sitnikov, Anatoly

- Finished measuring pulses from Arm A.
  - Result:6 channels don't work, 1 channel has small pulse
- Preparation Arm B for measurement
- Measured 110 channels from Arm B
  - Result:1 channel is not work; 1 channel has small pulse

### Teachey, Werth:

#### **HallD Target Control (work done in collaboration with Peter Bonneau)**

- Read back temperature values from the Lakeshore 218 through the 435NBX Gateway.
- Coded in Structured Text (using RSLogix5000a) to parse into an array, the ASCII data from the Lakeshore 218.
- Configured the 490NBX Ethernet Gateway to communicate with the Lakeshore 336 via TCP.
  - Troubleshooting Lakeshore 336 TCP configuration.
- Coded in Function Block Diagrams (using RSLogix5000) to convert analog current signals (4—20 mA) from the Control Logix PLC analog module to pressure in psia.
- Started a signals list for all Hall D target signals that will be monitored and controlled.