

DSG Meeting Minutes – Wednesday, December 10, 2014

Antonioli, Mary Ann:

Hall B

- Testing of HV interlocks of **SVT** EPICS program for region 1 completed.
 - Two channels failed. (Alarm indicated, but HV did not turn off.)
 - The on/off buttons for LV and HV can be non-responsive, or very slow to respond.
 - Reformatted results in Excel spreadsheet to make it more informative and easier to use.
- Testing of high temperature interlocks of **SVT** EPICS program for region 1 completed.
 - Two channels failed. One channel's LV was not turned off and the other failed channel only turned off the digital, not the analog.
- Wrote draft of **SVT** HV interlock testing procedure.
- Analyzed data of 13 Winston cones for **CTOF**.

Arslan, Sahin:

Hall B

- Continued work on **DC** HV cables for sectors R3S2, R3S3, R3S5, and R3S6.
 - Unbundled HV cables and laid out on the floor.
 - Measured the length of cables and reorganized.
 - Disassembled signal cables from DCRB.
 - Replaced and fixed broken pins on HV quads.

Bonneau, Peter:

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- Testing **SVT** slow controls
 - **Problems with system stability.** Daily, all sectors of R1 (LV and HV) are turned on.
 - With only resistive loads attached to the power supplies, random tripping of HV and LV channels.
 - Upon each trip occurrence, a screen shot is taken showing tripped channels (shown here: <https://userweb.jlab.org/~bonneau/SVT%20Slow%20Controls/EPICS%20Tripping%20Errors/>), the system is reset, and all channels turned back on.
 - The LV/HV channels that trip and the number of tripped channels varies.
 - It appears that some trips are caused by LV "measured voltage". The system then shuts off (as required) any HV channel for that side of a module followed by the LV channels.
 - Encountered a "Virtual Circuit Disconnect" error by the Alarm Handler.

Since the first use of the SVT EPICS system will be for the long-term stability testing of modules, it's critical that the slow controls be stable and do not trip off by itself. We requested that the Accelerator Controls Group place the repair of the system stability as the priority task when working on the SVT slow controls.

- Reviewed with Marc the **SVT** connections between the insertion cart and the three instrumentation racks designated for SVT electronics—the cooling system and associated instrumentation, SVT UPS system, PAC system, gas system components and patch panel.
- Completed first draft of DSG note which presents the details of a test program for the **LTCC** Reflectivity Test Station.
- Investigating problem with **SVT** HFCB/Module test program failing the differential line test. During module reception testing, it was discovered that the GE controllers (using the network boot configuration) fail the test while the Concurrent Technologies controller would pass the same module under test.

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- Tested basic remote commands and return responses to the MKS 647C Flow/Pressure Controller for the CLAS12 Gas System via a RS232 connection to a desktop PC.
 - At 9600 baud rate, commands such as System reset, controller ID, and valve open/close commands to the Flow/Pressure Controller worked properly and response syntax was correct.
- Updated DSG spotlight and added archive features on DSG website. Corrected links, updated bios, and made them visible (live) to the public.

Butler, Dave:

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- Observed Mary Ann doing **SVT** Interlock testing, in conjunction with discussing the test with Peter, to get a better understanding of the overall system.
- Discussed with Peter the test setup for the **Tracking Detector Safety System** (TDSS) HSCV temperature isolation test. Also discussed hardware for the TDSS that must be purchased soon for testing.

Hall D

- Troubleshoot as team member **Solenoid** interlock trips.
 - Solenoid tripped twice from the Cryo Monitor signal over the weekend and tripped twice on Monday from power supply's *Over Temp* signal.
 - Checked the function of the Sequence of Events code and it was working correctly.
- Changed **BCAL** chillers from 18°C to 12°C for running over the weekend but the PID loops were not controlling the temperature within 1°C.
 - Contacted Watlow (controller vendor) and verified all of the PID settings.
 - Raised setpoint to 13°C and the regulation was within 1°C.
 - Determined that the Compressor Set Point control (which is a physical adjustment inside the chiller) required adjustment on both chillers, and after adjustment, the temperature was monitored over a two hour run.

Everything is working as expected.

Eng, Brian:

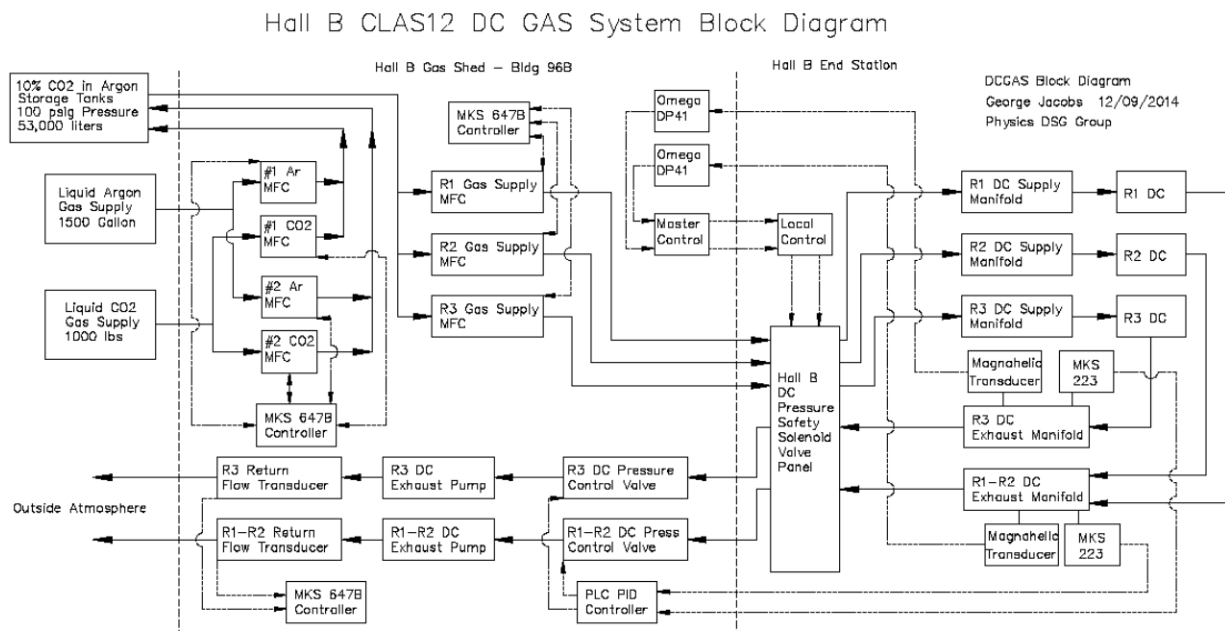
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- Tested (register and gain scans) all **SVT** modules used in Long Term Stability test stand (8) and four that will be used in the cosmic stand in EEL/121B, once the fixture arrives. Also made sure that hits were returned when running CODA on the cosmic stand modules, i.e. the paddles and trigger are functioning properly.
- Disassembled **SVT** R2 and R3 to place the R3 support structure and R2 structure with modules on the storage cart.
- Evaluated 2.12 VSCM firmware used for the back-end of the **SVT** DAq with new differential line test to ensure proper operation. Previous firmwares could potentially get stuck in a state where no status/sync words were returned.
 - In 2500 loops of the differential line test with P63 (which previously reported missing status words), no issues were found.

Jacobs, George:

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- Submitted HBList for running **LTCC** supply and return lines on the forward carriage, task ID 930.
- Meetings/walk-through with Will Oren, Dave Kashy, Bert Manzlak, Ron Bartek (JLAB pressure systems engineer), and Doug Tilles about the Hall B **gas system** pressure vessels CATS item.
- Requested and received quotes on:
 - Circle seal relief valves for **DCGAS** supply, **HTCC** gas supply, **MicroMegas** testing setup, and DC N₂ purge lines, specialty gas for MicroMegas testing – 10% isobutane in Argon, from Praxair.
- Updated Hall B **DCGAS** piping diagram with AutoCAD - DCGAS-clas12-piping-diagram.pdf.
- Created Hall B **DCGAS** system block diagram with AutoCAD - DCGAS-clas12-block-diagram.pdf - see below.



Leffel, Mindy:

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- Fabricating the **SVT** Slow Controls patch panel D-Sub cables.
 - Terminated 11 of the 22 cables.
- Untangled and re-bundled **DC** R3S2 HV cables and R2S3 signal cables.
- Writing DSG note on **CTOF** PMT modification.

Mann, Tina:

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- For the **LTCC** reflectivity tests:
 - Aligned laser through pin holes and performed calibration and mirror tests.
 - Unpacked and staged Winston cones that were returned from ECI and tested eight.
 - Retested one small and one large cone that were missing data.
- Worked on **LTCC** note on cone testing process.

McMullen, Marc:

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- Set up **SVT** 8-module long-term stability test in the clean room with Brian.
 - Secured eight sets of cables to the lab table with cable ties and adhesive-backed cable tie mounts.
 - Arranged the eight modules on the lab table and secured them with a ratcheting strap, which will prevent cables from pulling modules off the table if cable tie mounts fail.
- Disassembled, as team member, R2 as a unit from the **SVT** to lift R2 using the disassembly fixture.
 - The three sets of temp/humidity cables were held by hand while the region was lifted by hand using the mechanical fixture.
- Trained with Brian on operating the CODA **SVT** software.
 - Wrote a procedure on operating the CODA SVT software.
 - Took two cosmic test stand runs with P40, 45, and 55.
- Designed a cable tray for **SVT** to the SFL1 model using AutoCad Inventor.
 - Shows routing of the cables/services from the off-cart racks on SFL1-S to the insertion cart.
 - Communicated with Mandal on the chiller and nitrogen lines. The SVT will need four ½” (outer dimension) lines for coolant (2 for R1-3, and 2 for R4). The gas lines for nitrogen have not been specified.
 - Discussed with Bonneau the service requirements for the off-cart racks to be provided by DSG. All crates on the installation cart will require power (excluding distribution chassis) and network. Additionally, the crate controllers will require independent network cables.
- Shipped five **SVT** modules (P4, 30, 40, 45, and 69) to FNAL to be reworked or finished.
 - Thirteen empty module boxes were shipped, which should provide enough for the balance of module production (82 modules).
- Discussed with Manzlak and McKay via email the **CTOF** work being done by Anatoly in the machine shop.

Ensured that everyone was informed about DSG staff's management and ensured the involvement of the Jlab safety group during this work.

Hall D

- Beam Readiness notes: Beam was restored on 12/4/14. They will continue with checkout of all detectors, trigger studies, and DAQ. FDC performance was presented by Lubomir. The solenoid has tripped several times during the week for different reasons each time (main contactor, cryo signal, and icing on the leads).

Sitnikov, Anatoly:

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- Winding one prototype induction coil in Machine Shop for **CTOF**.
- Completed second polishing of **CTOF** 120 fibers (D = 1.4 mm, L = 29 mm). Polished both ends.
- Results for the fibers of the **CTOF** laser calibration system:
 - a) 161 fibers (D=0.32 mm, L=4.8 m) are ready.

Note, only one end polished, other end will be in the bundle. Polishing this end has not begun.

- b) 120 fibers (D=1.4 mm, L=29 mm) are ready, polished both ends.

Teachey, Robert Werth:

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- Wrote and tested the **MPOD Test Stand** Voltage Granularity Test with an MPOD and an LV module (Wiener OMPV.8008L). The GUI still needs to be organized and a few additions need to be made to the data file.
- Coding for the **MPOD Test Stand** Voltage Variation Test.

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- Set up PC for the **DSG Monitoring System**.
 - Tested PC for proper network subnet (Hall D Experimental).
 - Installed Studio 5000 and Factory Talk software to look at Hall D PLC code.