

DSG Weekly Report – March 18, 2015

Antonioli, Mary Ann:

Hall B

- Began flowchart of **HDice** LabVIEW program.
- Began drawing of physical layout of **HDice** RF attenuation and switching box.
 - Completed back panel and started on modules.
- Tested 5 **SVT** humidity temperature sensor boards (HTSB).

DSG

- Made final edits to **Note** 2015-004 and posted to DSG website.
- Changed **website** photo and archived removed photo.
- Met with Walt Akers to discuss fabrication space in the EEL mezzanine for Anatoly, whose work area in the TEDF has been taken by Hall D.

Arslan, Sahin:

Hall B

- Continued separating **DC** signal cables according to length, with Anatoli.
 - Made 33 cable bundles, 6 cables/bundle.
 - Most of the cables are damaged due to being submerged in flood water (see photos); all cables need cleaning and many need repairing. May need to fabricate new cables.
 - Estimated time to clean, repair, and fabricate new cables is ~6 months 2 FTEs.





Drift Chamber Signal Cable Photos

- Cleaning aluminized coating from **LTCC** Winston cones, with Anatoli.

Bonneau, Peter:

Hall B

- Posted **gas system** design documentation from University of Richmond on the “M” drive.
- Reviewed with Mary Ann the setup and operation of the test station for the **SVT** HTSBs.

- Coordinated activities regarding the assembly and troubleshooting of **SVT** instrumentation.
- Calculated expected ADC input voltages for the independent coolant monitoring hardware for **SVT**.
- Met with Accelerator regarding **SVT** slow controls development and network upgrade.
- Added additional code in the **HDice** NMR program initialization sequence for troubleshooting the program flow without requiring instrumentation.
- Requested documentation from CAEN regarding device drivers for the **HDice** CT box, to estimate the programming effort that will be required.

Hall D

- Monitored the status of the PLC-based **slow controls system** including the interlock problems on the solenoid power supply.
- During the work on the **FDC** in the DSG cleanroom, met with Lubomir Pentchev on the setup of the cleanroom.

Butler, Dave:

Hall B

- Gave a presentation on the **gas system** to the controls team.
- Discussed with Marc and George items needed for the **Drift Chamber gas system**.
- Attended the **SVT** weekly meeting.

Hall D

- Removed the top cathode from the **FDC** spare package for particle ID testing in EEL 126. The operation was completed in the DSG cleanroom.
 - Mindy and Marc assisted and were trained on **FDC** assembly technique.
- Attended **FDC** and Hall D **beam readiness** meetings.
- Assisted, along with Hall D technical staff, in troubleshooting the **solenoid** slow dump that occurred on 3/12/2015.
 - Reference log entry <https://logbooks.jlab.org/entry/3325633> for specific details. It appears that there is an intermittent glitch in the power supply.

Eng, Brian:

Hall B

- Set up **SVT** R4 VXS and MPOD crates.
 - All MPOD crates, with all cards in proper locations to match crate list, have been put on the ACC network.
 - The VXS crates don't match the crate list as cabling won't reach when assembling R1-3 and R4 separately, but all VSCMs for the SVT have been installed.
- Wired with Marc's assistance the **SVT** chiller inlet sensors (flow, pressure, temperature).
 - Flow rate is out of the range of the sensor so it won't read properly.
 - Found bad cable from patch panel (#21) to V450, replaced it with a spare.
- Wired **SVT** chiller outlet flow meter and configured device.
- Connected **SVT** R2 M1-M5 slow controls to patch panel.
- Debugging **SVT** R1 M5 high noise on first few channels of U3 (normally $1700e^-$ went to $2500e^-$).

- Tried several steps all without affecting noise: only powering single module, disconnecting all cables on crate end and reconnecting, moving all M5 cables to M1 position. After disconnecting adjacent modules (M4 and M6) noise went back to normal. Then, after reconnecting both modules, noise is still normal.
- Attended **SVT** meeting.
- Fixed bug in **HPS** PLC code where, on a vacuum fault, only the MPOD would be disabled, but valves would remain open. The bug was introduced when SVT and FE chiller interlock logic were separated.
- Looked into adding a heartbeat signal on **HPS** PLC per Hovanes' request.
 - Can either flip a boolean bit or use WallClockTime of PLC. No one from HPS/SLAC has confirmed wanting to implement this feature yet as it would require rebooting the PLC.
- Tested relay modules for **HDice** cryostat.
 - Found 1 bad pole on 1 of the 4PDT relays.
 - 2PDT relays had higher than normal resistance in NC state.
 - Located part number and vendor for Andy Sandorfi to order with his PCard as was a critical item he needed that day.

Jacobs, George:

Hall B

- Reviewed **gas system** drawings and system status spreadsheets for DC, LTCC, HTCC, SVT, RICH, and MicroMegas.
- Discussed with Paul Hanson and Bob Miller layout of **DC TORUS cabling**.
- Fabricated **DC gas pressure control valve** assemblies and attached them to the solenoid valve panel.
- Met concerning **Gas Systems** priorities with Amrit, Marc, Dave, and Sahin.
- Requested price quotes on GE Moisture IQ analyzer to replace the Panametrics Series 1 and Series 3 moisture image analyzer, for the **DCGAS system**.
- Ordered 2 cylinders of dry air for **SVT** purge in clean room.
- Ordered 1/2" stainless steel ferrules for assembly of **gas systems**.
- Submitted FML work request #48737 to disconnect power from dryer heater control panel in 96B for decommissioning of molecular sieve gas regeneration system. This will be the future location of the **MicroMegas** mixing system.
- Discussed **DCGAS** controls components status with Marc McMullen and David Butler.
 - Components: MKS 647b, MKS 200 slm and 50 slm MFC (mass flow controllers) and 200 slm MFT (mass flow transducers). Panametrics H2O and Teledyne O2 analyzers and probes. Pressure control system valves, valve drivers, and capacitance manometers.

Leffel, Mindy:

Hall B

- Terminated cable for **SVT** outlet coolant flow meter.
- Worked with Tina to take out **LTCC** Winston Cones from inventory for delamination and then shipment to ECI.
- Repaired two **SVT** slow controls and two LV R4 drain wires.
- Assessed the condition of **DC** cables at the ESB, with Mary Ann, and discussed assessment with Amrit and Peter.

Hall D

- Assisted with moving spare **FDC** to the clean room and to remove cathode to enable Lubomir to run particle identification test.

DSG

- Worked with Mary Ann to configure work space and to select work tables for Anatoly's fabrication area.

Mann, Tina:

Hall B

- Worked on an excel spreadsheet to determine which **LTCC** cones are to be delaminated and which ones need to be sent back to ECI.
 - Locating cones that need to be delaminated and those that need to be sent back.

McMullen, Marc:

Hall B

- Started testing bare **SVT** HFCBs.
 - 4 bare boards are complete and 4 more have the resistance measurements done.
- Wired **SVT** chiller outlet with Brian.
 - Connected temperature, flow, and pressure signals of the display unit to the VME 450.
- Re-mapped **SVT** Region 1 module cables.
 - During installation, the modules were assembled with a 1-position shift (R1 @ position 10, R2 @ position 1, etc). Reconfigured the cables to match the new positions.
- Discussed the status of **DC** gas components with George and Dave.
 - Information from this meeting will be used to generate a spreadsheet for components which may need to be upgraded for 12GeV operations.
- Re-soldered cable shield wire on module end of slow controls cable for **SVT** region 2 module 1.

Hall D

- Assisted with the disassembly of spare **FDC** chamber's outer cover and removal of a cathode layer.
 - The chamber has an expanded spacer ring, and with the removal of the copper cathode, will allow a longer drift time for particles.
- Attended the daily Hall D **beam readiness** meeting.

Sitnikov, Anatoly:

Hall B

- Continued bundling **DC** signal cables.
 - Completed 33 bundles with Sahin
- Cleaning aluminized coating from **LTCC** Winston cones, with Sahin.

Teachey, Robert Werth:

No report received (Out sick.)