



Detector Support Group

Weekly Report – September 9, 2015

Antonioli, Mary Ann

Hall B

DC

- Examined test data and completed spreadsheet for 52 signal cables.
 - ★ Total tested and analyzed: seven 50 ft bundles and twenty one 65-ft bundles
28/252 bundles.
 - ★ In these 28 bundles (168 cables), 17 connectors had to be replaced by Mindy.

Arslan, Sahin

Hall B

DC

- Working, with Anatoly, on testing signal cables.
 - ★ Measured propagation delay of cables in the 65 ft. cable group.
 - ★ Measured 9.5ns propagation time for the length of the input and output probe cables together.

HDICE

- Test station setup.

DSG

- Transferred new test station computer to Computer Center for configuration.

Bonneau, Peter

Hall B

HDICE

- Conducted bi-weekly slow controls status meeting on 9/8/15.
- Developed LabVIEW DAQ readout sequence program using the new CT-BOX device driver files.
 - ★ In “Data-Logger” mode, DAQ program runs as expected. CT-Box is setup and the system acquires data and stores it in a file.
- Reassembled test station in DSG Control Room.
 - ★ Installed and tested:
 - AC Power distribution panel, GPIB, RS232, and RS485 interfaces, Oxford power supply, RF generator, Lock-in amplifier, and RF Attenuation/Switching chassis.
 - Modification of test bench completed to allow access to 208V outlet.
 - Added computer to Hall B experimental subnet (129.57.86.xx).
 - Installing software on the computer.

SVT

- Investigated network problem, after a power outage, with Hardware Interlock System.
 - ★ After starting NI-Max, could see the cRio had properly rebooted Linux and the real-time interlock program after the power failure, but the crate was not issued an IP address. After changing the network connection on the switch to another port,



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crate was issued an IP address. User interface was restarted and the over-ride switches were turned off.

- Monitored the system on a daily basis.

Hall D

- Reviewed problems, out-gassing and vacuum issues, associated with warm-up of the solenoid.
- Examined status of slow control systems on a daily basis.

Butler, Dave

Hall B

Gas System

- Wrote a one page paper describing the gas system PID test.

Hall D

- Assisted Brian with testing and researching accelerometers for "listening" to the solenoid during a possible quench.
 - ★ Waiting on a quote from Measurement Specialties for a more appropriate accelerometer for our application.
- Got FDC chiller back online after the Hall D personnel switched the Interlock PLC from normal to UPS power.
 - ★ By unplugging the power, PLC lost communications with EPICS system and was unable to reset the required variable tag to restart chiller.
- Attended the FDC/CDC meeting. Minutes are at the following location: <https://halldweb1.jlab.org/wiki/index.php/Minutes-9-3-2015>.
 - ★ Straw tube sag ~2—3 mm. Simon Taylor is studying the problem.

Eng. Brian

Hall B

SVT

- Tried changing R3 N₂ piping connections to improve humidity (connected both N₂ lines, one of them was to be used as a backup line), only minor changes observed.
- Recovered slow controls and DAq after breaker tripped causing power failure to all R4 electronics and hardware interlock system.

Hall D

Solenoid

- Installed second PXI ADC module (1 more due to be delivered around 9/23/15).
- Installed new PXI controller (PXIe-8101 to a PXIe-8135) both with appropriate configuration changes.
 - ★ New controller has CPU usage ~10% vs ~35% for the previous one.
- Testing/evaluating accelerometer sensors, currently the bias voltage is too high when connected to existing DAq (~11.2 V from constant current supply) to use with the PXI.
 - ★ Investigating having the sensors powered separately or getting different sensors.



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Jacobs, George

Hall B

Gas System

- Wrote LTCC Window Deflection test.doc and generated test setup diagram and pictures.
- Discussed with Paul Hanson, designer, DC gas system manifolds design.
 - ★ Working on 1st draft.
 - ★ Gas tank (240 gallons; $\Phi = 30''$, $H = 80''$) and manifold to be located on level 3 of space frame.

DC

- Discussed with Mac Mestayer and Chris Cuevas R1 DCHV voltages and current issues.
 - ★ Present efficiency 95%; to improve efficiency sense voltage raised to 1650 V, which is at or above (by 50 V) the design value of the circuit board.
- Attended TDG meeting.
 - ★ Discussed topics:
 - Progress of LTCC build (Boxes 2 and 3 are being worked on).
 - Subway electrical installation; pulling wires to breaker – upstream.
 - CTOF repairs; re-surfacing of scintillators by machine shop looks good.
 - HTCC leak check.
 - Relocation of LTCC components.
 - Larger pressure control buffer tanks for DCGAS and new location.
 - DC signal cable completion date and man power usage; based on P[^].
 - Pre-fabrication of R1 DC cable trays, to start on 11/15/15.
 - Budget and remaining procurements.
 - H₂O sensor cable for the HTCC; requested by Yuri Sharabian.
 - Results of LTCC window deflection test and C₄F₁₀ recovery; window deflection within specs, 80lbs/180 lbs. of C₄F₁₀ recovered.

DSG

- Picked up the remaining Genie IWP-20 aerial platform from ODU to close out the loan.

Leffel, Mindy

Hall B

DC

- Tested eight signal cables and cleaned six bundles.
- Finished wire bonding FSSR2 chip U1 to HFCB 2-P4.
- Replaced wire bonder wedge; made necessary adjustments to wire bonder.
- Completed areal platform training.

Hall D

- Made BNC test cable for accelerometer for solenoid.
- Attended tech meeting.



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Mann, Tina

Hall B

DC

- Tested 8 signal cables.
- Cleaned 6 signal cable bundles.

Hall D

- Went to the hall every day for a status update on rework to be done on solenoid.
 - ★ Work to start on 9/15/15.

McMullen, Marc

Hall B

Gas System

- Set up prototype test stand with MKS 223b, (reads pressure), fan, and inflatable bag for LTCC PID control loop.
- Coding in LabVIEW PID controls.
 - ★ Program continuously reads pressure and adjusts fan speed which inflates a bag that is read out by the MKS 223b.

Hall D

- Trained on controls system with Dave and Brian.
 - ★ Observed Dave as he switched the CDC from backup power to Hall clean power, to allow the installation of new UPS power system.
 - ★ Observed Dave troubleshoot chiller interlock after it failed to clear.
- Attended the weekly FDC/CDC meeting.

Sitnikov, Anatoly

Hall B

DC

- Tested signal cables.