



Detector Support Group

Weekly Report, 2016-02-10

Glossary: EDC = Estimated Date of Completion.

Ongoing Projects

I. Hall B SVT (Amanda, Brian, Mary Ann, Peter)

Task: Study reason for increased current draw.
EDC: 02/29/2016
Action: Eight modules have been set up for long term (months) study.
Comments: HV currents will be recorded once every 10 minutes. **Module P54 is declared dead.**
Status: Work in progress.

II. Hall D PLC Systems (Peter, Tyler, Amanda, Mary Ann, Marc)

Task: Locate and document (including spares) the eight PLC systems in use.
EDC: 03/15/2016
Action: Completed Target PLC layout and report.
Comments: Need photo.
Status: Work in progress.

III. Hall B Gas System Hardware (George, Sahin, Mindy, Anatoly)

Task: Install Gas System hardware.
EDC: **TBD**
Action: Three Mass Flow Controllers (MFCs) leak-checked. Obsolete piping removed, in gas shed. For LTCC, moved control tank, control valve, and valve panel.
Comments: **Doug Tilles moved solenoid panel to have required clearance from Run/Safe box.**
Status: Work in progress.

III. Hall B Gas System Slow Controls (Brian, George, Marc, Mary Ann, Amanda, Tyler)

Task: Perform PID controller test with new MFCs.
EDC: 02/15/2016
Action: Replaced, wired, networked, and leak tested three MFCs.
Comments: Auto-tuning PID program to be tested on 02/15/2016.
Status: Work in progress.



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IV. Hall B Magnet Slow Controls (Brian, Peter, Amanda, Tyler)

Task: Test Power supply.
EDC: 2/12/2016
Action: **No progress with wiring of Power Supply.**
Comments: Established communication on 01/29/2016.
Status: Work in progress.

V. Hall B HDICE (Peter, Brian, Mary Ann, Amanda, Tyler, Mindy, Sahin)

Task: Fabricate RF box.
EDC: **TBD**
Action: Submitted all PR's for the 3rd RF Switching/Attenuation Unit.
Completed update of program to LabVIEW Version 2015.
Comments: **Waiting of RF cable est results from Wei.**
Status: Work in Progress

VI. Hall B HTCC (Mary Ann, Mindy, Anatoly, Sahin)

Task: Fabricate cables.
EDC: 07/31/2016
Action: Fifteen of 50 HV cables done.
Comments: Received delivery date of remaining connectors end of 02/2016.
Compensation coil cable yet to be selected.
Status: Work in progress.



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Antonioli, Mary Ann

Hall B

HDice

- Retesting Rotation of Target Polarization software.
 - ★ Necessary because LabVIEW was updated.
- Took Amanda to HDice lab. While there, we met with Xiadong, who then gave us a quick tour and explanation of the project.

HTCC

- 50 signal cables have been tested and labels made by Sahin.
- 15/50 HV cables fabricated by Mindy.

Hall D

PLC System

- Checking, editing, and cleaning up PLC system spreadsheets, using reports and photos.
 - ★ Began spreadsheets for Point IOs, BCAL upstream, and BCAL downstream.
- Modules have been added, but still need the tags.

DSG

- Began formatting and editing SVT module note in InDesign.

Arslan, Sahin

Hall B

DC

- Working on replacing the old components with new components,
 - ★ Four new pump installed
- Provided CO₂/Ar for R1S4 test stand chamber
- Provided spare bottle of N₂ to SVT

HTCC

- Testing continuity of the 48 signal cables fabricated by Mindy.

Bonneau, Peter

Hall B

Magnet Systems

- Meeting on Wednesday, 2/10/16 regarding testing of PLC controls on the Hall B

HDice

- RF Switching/Attenuation Unit
 - ★ Submitted all PR's for the 3rd RF Switching/Attenuation Unit.
 - ★ Reviewing box design for changes due to replacements for the discontinued parts.
- Rotation of Target Polarization Program
 - ★ Completed update of program to LabVIEW Version 2015.
 - ★ Successfully tested automatic mode for positive and negative ramping.



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SVT

- Attended module performance meeting.
 - * No conclusions on cause of module HV current problems.
 - * A long-term test on SVT spare modules will be setup in the cleanroom.
- Monitored SVT Hardware Monitoring System Interlocks on a daily basis.

Hall D

- Revised PLC report layout files are being checked for accuracy by the Rockwell PLC system reports and other documentation by Mary Ann.

DSG

- Training Hoebel on Allen Bradley PLC systems.
 - * Showed how create project files on RSLogix 5000.
 - * How add and configure modules (ADC, Relay, RTD, DAC) to test station project file.
 - * Overview and hookup of ADC inputs to PLC test station.
- Trained Hoebel and Antonioli on LabVIEW programming
 - * Reviewed updates to the HDice – Rotation of Polarization Program.
 - * Gave overview of the calibration program to be written for the CAENels Current Transducer Box.
 - * Implementation of a GPIB device driver for HDice was covered.
- Updated DSG PC for Adobe CS6 Master Collection.

Eng, Brian

Hall B

SVT

- Setup module test stand with Amanda which will have multiple modules (currently we have 7 modules, limited by cables) under LV & HV and the HV current will be monitored periodically, so very similar to a long-term test stand.
- Did IV curves on a few modules, no problems found.
- Yuri burned the short in R4 S9 B by setting current limit to 100uA and raising the voltage, now able to power to 85V.

Gas System

- Installed new MKS networked MFC for N₂ purge on SVT. Found out that when connection is closed, flow setpoint goes to zero (not very desirable).
- Setup cRIO in EEL/231 which is on 86 subnet to maintain connection to SVT MFC.

Magnets

- Moved PLC controller to different slot to match layout.
- Went to Hall with Amanda & Josh to review current progress of communication between PLC & MPS.
- Still waiting on go ahead from DC group to put current through MPS to do final items on checkout list Josh generated.



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Hoebel, Amanda

Hall B

HDICE

- Discussed rotation of target polarization LabVIEW VI with Mary Ann and Pete.

SVT

- Assisted Brian in setting up 7 spare SVT modules for testing.
 - * Tested each module at 85[V]. One module had a current of ~1000[nA] (should be at ~300[nA]). This module (P17) was replaced with another module (P50).
 - * Replaced working spare modules with spares reported to draw high current. High-current modules started working properly.
- Wrote C code to read currents of spare modules from MPOD crate.
- Added February voltage and current data to module database.

Hall D

- Attended slow controls meeting.
 - * Discussed databasing resistance measurements.

DSG

- Toured HDIce Lab.
- Set up PLC modules in RSLogix5000
 - * Wired temperature and humidity sensors to ADC unit

Jacobs, George

Sick

Leffel, Mindy

Hall B

Gas System

- Rewired D-sub, power connectors for the gas flow control.
 - * Nine female and nine male.

SVT

- Repaired broken wire on LV cable.

HTCC

- Terminating cables.
 - * 10 more signal, for a total of 50.
 - * 15 of 50 HV, SHV to SHV.
 - * Repaired short on signal cable.

Lemon, Tyler

On Leave



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McMullen, Marc

Hall B

Gas System

- Worked with Anatoli, Leffel, Eng, and Arslan on installing network and power cables for the MFCs in the gas shed.
- Altered DC Gas LabView code to add multiple set points for the MFCs.
- Discussed operation of gas system with Jacobs. Started written procedure for running the gas system used to test the DC gas system PID.

SVT

- Attended the SVT module HV problem meeting.

Hall D

- Met with Nick from the electronics group/Hall D to discuss locations of the Hall D PLCs.

Sitnikov, Anatoly

Hall B,

DC

- Cabled, labeled, and made nine network connectors for new DC Gas system with Mark.
- Changed gas cylinder for DC R1S4 with Sahin