

Detector Support Group

Weekly Report, 2020-02-26

<u>Summary</u>

<u> Hall A – SoLID Magnet Controls</u>

- Constant Current Source pcb has been ordered, expected delivery by 3/6/20
- Completed first version of Axial and Radial Supports Experts HMI screen
 Screen allow the input of the thresholds for two levels
 - One level is for a controlled ramp down the other for fast dump

Radial and Axial Supports Expert - /SoLID_Solenoid// (Display)						
2/26/2020 9:52:40 AM Solenoid Radial & Axial Supports - Expert						
Radial Supports	Ramp Down Limit	Ramp Up Limit	Fast Dump Limit	Enable Interlock	Enable	Read Fault
Radial A	183 Lbf 81	81	81			
Radial B	183 Lbf 81	81	81			
Radial C	183 Lbf 81	81	81			
Radial D	183 Lbf 81	81	81			
Radial E	183 Lbf 81	81	81			
Radial F	183 Lbf 81	81	81			
Radial G		500000000000				
Radial_O		81	81			
Radial I		81	81			
	183 Lbf 81	81	81		ă	
Radial_J	183 Lbf 81	81	81			
Radial_K	183 Lbf 81	81	81			
Radial_L	183 Lbf 81	81	81			
Radial_M	183 Lbf 81	81	81			
Radial_N	183 Lbf 81	81	81			
Radial_P	183 Lbf 81	81	81			
Radial_R	183 Lbf 81	81	81			
Radial_S	183 Lbf 81	81	81			
Axial Supports						
Axial_T	183 Lbf 81	81	81			
Axial_V	183 Lbf 81	81	81			
Axial W	183 Lbf 81	81	81		Ó	ŏ
Axial_X	183 Lbf 81	81	81		Ō	ŏ
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SoLID Solenoid Axial and Radial Supports – Expert HMI screen Displayed values are randomly generated by DSG PLC

- Wrote PLC code to monitor temperature sensors located in the heat exchanger
- Modified PLC layout
 - ★ Added heat exchanger signals
 - ★ Suggested adding new remote # 2 PLC chassis for extra I/O modules required
- Developing Rh-Fe Temperature Sensor Wire Diagram drawings
 - ★ Changed name for the drawing to *Magnet Temperature Sensor Wire Diagram*, since magnet has different type of sensors; e.g. diodes
 - ★ Modified signal conditioner inputs and outputs

Hall A – BigBite Shower Calorimeter

• Terminated and tested the remaining five 34-contact coax ribbon cable to twisted-pair ribbon cables

HallA –GEM Gas System

- Procured gas distribution system components
- Got final part number for mass flow meter to be ordered



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Hall A BigBite Module Wrapping

- Completed three of 64 blocks (~5% complete)
 - ★ Blocks cleaned and wrapped with Mylar and Tedlar
 - ★ Tedlar wrapping reinforced with electrical tape

Hall B Magnets Controls

- Debugging problems with Rockwell software
 - * Software either extremely slow to launch or has errors when running
 - ★ So far, found that it only seems to happen on computers that use cadlm2 as the server

<u>Hall B MVT</u>

• Increased Forward Micromegas Tracker gas flow differential limits to reduce alarms caused by weather

Hall B - SVT

• Waiting for networking changes in order to use PXE boot (netboot) for controllers

Hall C – CAEN HV Hardware Testing

- Continued with ramp up ramp down test with load
 - ★ Completed second pass on crate # 3

Hall C – Magnet Screen Conversion

- Completed Q2 PSU Setup and Q3 PSU Setup screens
- Created a new library for the LabVIEW EPICS server used to test the Hall Status CSS-BOY screens
- Researched best way to implement screenshot button in CSS screens
 - ★ Screenshot interfaces found are operating-system dependent
 - ★ Researching Eclipse commands to perform screenshot to make button work regardless of whether screens are run from a Windows or Linux PC

Hall C Polarized 3He Target

• Re-soldered five RTDs

<u>Hall D – WEDM</u>

- Updated WEDM screens to better reflect CSS-BOY screens
 - Changed gate valve status on the Solenoid vacuum screen from 1/0 for open/closed to text "OPEN"/"CLOSED"
 - * Removed unneeded indicators from Solenoid Coil 3 and 4 Temperatures screens
 - ★ Corrected state colors for Fan Control status on ComCal Environment screen
 - ★ Added coolant flow indicator to ComCal Chiller screen
 - ★ On DIRC Environment screen, Liquid Levels indicators changed from Boolean to text indicators



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DSG R&D - MSELV Chassis

- Added sbRIO system monitoring loop and network shared variables for monitoring of sbRIO memory usage and on-board temperature sensors
- Began re-adding web interface to sbRIO
 - ★ Web interface removed for sensor readout debugging to eliminate it as source of Cernox readout problems
- Started MSELV RMC schematic

DSG R&D – EPICS Data Logger

• Used Grafana to generate a time series plot from logged data for two RICH PVs used to monitor temperature