Work plans for Nov 26, 27 and 28, 2018

1. Power down all magnets (480Vac off) and reduce current leads flow to 1.0 or lower expect HMS Dipole. (Steven)
2. Power down rotation rack during welding. (Steven)
3. Perform magnet and U-tube inspections on all magnets. (Steven, Andy, techs)

Rotation work: (Monday and Tuesday)

1. Clean rails, wheels and encoder wheel. (techs)
2. Install brushes (includes welding near encoders) (techs)
3. Install new SS relays inside electrical panels. (Andy)
4. Setup for testing of SS relays. (Andy)
5. After rail cleaning brushes have been installed, power up rotation rack. (Steven)
6. Verify functionality of encoders and rail cleaning pads by rotating spectrometers a few degrees in each direction. (Steven)
7. Perform SS relay testing. Modify as needed to obtain fast brake engagement at zero frequency output. (Jack and Andy)
8. Wire up the SHMS electric brake to SS relay. Place manual bypass switch to normal mode. (Joe)
9. Rigorously test functionality of starting and stopping SHMS rotation. Especially around 19.2 degrees. Measure motor current draw. Test E/S and monitor brake operation effects on SHMS. (Steven and Andy)
10. If available, install and test HMS electric motor with brake. Perform same test on HMS as in step 9 above. (techs & Joe, Steven & Andy)
11. Install camera power cycle capability if available. (Joe or Jack)

HMS Dipole NMR: (Monday)

1. Power cycle the HMS Dipole PSU first. (Mike)
2. Power cycle the NMR unit. (Mike)
3. Ramp magnet to various excitations and monitor and record performance of the 2026 NMR probe. Have DSG present for test. (Mike & DSG)
4. Switch PSU polarity and repeat test. (Mike & DSG)
5. Switch polarity back to initial polarity and leave PSU 480Vac on, Mains off and at zero current. (Mike)

SHMS magnets: (Tuesday)

1. Melt the ice balls from around the current leads by turning down the lead flow mass flow controllers and using fans or heaters. Replace any heaters not working. (Andy)
2. Open PSU doors and inspect for smells and leaks. (Steven or Joe)
3. After ice has melted, turn on PSU with doors opened, ramped up to max experiment current and using thermal imaging camera, measure transistor banks for any hot spot temperatures. If any is found, record location, power down and off PSU and lock out. Reverse flush LCW lines. (Joe)
4. Repeat step 3 after flushing to verify coolant is adequate.
5. Return PSU to on (480Vac on) but with mains off.

SHMS Controls work: (Steven) (Monday)

1. Perform I/O chassis hard boot on each magnet, on at a time.
2. Place the valve controls in key position manual.
3. Power cycle the I/O chassis of magnet. Wait at least ½ minute before turning power back on.
4. Install remote power cycle option if available at this time.
5. Place He supply and return valves in PLC manual mode.
6. Monitor cryo parameters and valve recovery of the magnet before switching key positon back to remote.
7. After switching key switch to remote, monitor HMI and slowly place He supply and return valves back to PLC auto after PIDs have re-established themselves.
8. Proceed to next magnet (five in all)
9. Turn PSU on (480Vac) but mains off.

HMI work: (Mike) (Wednesday)

1. Update rotation interlock archiving.
2. Refresh and back up data logging files.
3. Reboot Skylla if needed.