

Remaining Torus KPP Tasks

Date: January 26, 2017

Time: 9:00 – 10:00

Attendees: George Biallas, Ruben Fair, Dave Gelhaar, Dave Kashy, Probir Ghoshal, Tyler Lemon, Nick Sandoval

1. Updated Torus timeline for KPP.

- 1.1. 2017-01-25: Ramped of Torus to 100 [A].
- 1.2. 2017-01-27: Start low current tests.
- 1.3. 2017-01-27: Power to half-field (~1900 [A]).
 - 1.3.1. Will coordinate with Hall B Engineering to ensure area is safe for power-up.
- 1.4. After at half-field: Check if Fast-Daq is correct on cRIO, PLC, and EPICS.
- 1.5. 2017-02-03: Start of KPP.

2. Completed tasks

- 2.1. Interlock checklist completed by Pablo Campero and Tyler Lemon.
- 2.2. MPS checklist complete by Dave Gelhaar and Onish Kumar.
- 2.3. Voltage tap and quench detection checks complete by Probir Ghoshal and Nick Sandoval.

3. Remaining tasks

- 3.1. Alarm handler needs to be updated by Wesley Moore.
- 3.2. Environmental checks to be performed by George Biallas.
 - 3.2.1. Checks include ensuring area affected by magnetic field is clear of equipment.

4. Fast-Daq digital filter.

- 4.1. Filters will not be used during KPP.
 - 4.1.1. Filters negatively affect comparators used for interlocks.
- 4.2. Tyler Lemon will continue to investigate filtering during and after KPP.
- 4.3. Ground wire added to Fast-Daq cRIOs by Sahin Arslan, Brian Eng, and Mindy Leffel.
 - 4.3.1. Connection to ground needed for EMC compliance.
 - 4.3.2. Grounding does not appear to have affected signal noise.

5. Cerenox LV Excitation error

- 5.1. Error occurs where LV excitation of Cerenox temperature sensors fails.
 - 5.1.1. Failure indicated by temperature reading jumping to 325 [K].
- 5.2. Cause of error:
 - 5.2.1. LV Excitation Chassis reads two excitation voltages (V1 and V2).
 - 5.2.2. If $V1 = V2$, $R = (V1 - V2)/(I1 - I2) = 0$ [Ω].
- 5.3. Current solution for error is to reinitialize entire LV cRIO LabVIEW program.
 - 5.3.1. Runs start-up algorithms for sensors and fixes Cerenox error.
- 5.4. Tyler Lemon will investigate automatic recovery solution after KPP.

6. Post-KPP tasks

- 6.1. Find solution for Cerenox LV Excitation error (discussed above).
- 6.2. Find solution for filtering of Fast-Daq data (discussed above).
- 6.3. Test cryogenic auto-recovery for Torus.
 - 6.3.1. To be tested by Dave Kashy and Nick Sandoval.
 - 6.3.2. If fast dump occurs during KPP, auto-recovery test will occur.