UITF to-do list 2/26/2018

Procedural:

1. OSP buncher
2. OSP RF on cold QCM, no beam
3. ODH formal approval, a few tasks remain
4. PSS BCM progress
5. Design the MeV waist-height beamline with new spectrometer
   1. Shaun is sequencing BCM/FCUP + DP can
   2. Joe finalizing matching quad interspacing
   3. Spectrometer : dipole/can available now, likely other components available for simple 2D style spectrometer
6. Metrics to decide QCM is good (Arne, Reza)
7. Model today’s keV beamline with GPT? Compare measurement vs prediction (Alicia)
   1. Alicia has a keV model from Ops review; time to update w/ as-is
8. Wrap up design of the 200kV wien magnet, get magnets built
   1. Gary Croke is developing software for new 30kV HVPS’s
   2. Jeff Dail queued for winding remaining coils – no update on this
9. PSS interlocks for Wien!?
   1. Keith Welch evaluating high voltage
   2. Likely no problem if we limit current
10. Use the zimbra UITF calendar to schedule work
11. Quick reference schematic keV beamline (Eric)
12. Clear out Cave2, start lying out the beamline, organize

Install Group

1. Re-install the chimney at penetration with rf coax line and He warm return
2. Fill the waveguide penetration with sand
3. Cable tray along the rest of the cave, mounted to wall
   1. Shaun and Neil set design, parts to be ordered

Cryo-related

1. LN2 temp test, pressure and flow test
2. LHe test
3. Controls and epics page

RF

1. Klystrons
2. Choppers at 200W per channel
   1. C1X/C2X operating routinely at 75W, provides sufficient >10mrad @ 200keV
3. Buncher
4. Water skids
5. Interlocks, water and vacuum
6. MO screen? Controls screens
7. Cryodiode/heater chassis (Keith Cole and Scott Windam building a new one)
8. stepper motor chassis,
9. interlock chassis (ARC and IR detectors, steal from LERF?)

EES

1. BPMs
   1. All 8 are cabled, upright, correctly
   2. Software?
2. ItoV’s, do we have them?
   1. No, from Jim Kortze this is backburner

SSG/EES

1. MPS/FSD system: window comparators, masking tool, destinations
2. Valve box, Kortze
3. BLM at keV region
   1. Jerry/PSS will install at dipole bend
4. safety interlocks for klystrons/HPA and solid state amp into PSS
5. ~~Magenta~~ Red beacon on top of the cave? Seems like a good idea to me….

Wien

1. Make new Wien magnets
   1. Jeff Dail winding coils
2. HV power supplies for Wien
   1. Three pair of +/- are here, Gary Croke working on software
3. PSS interlocks for Wien?
   1. Keith Welch evaluating safety

keV beamline

1. Plumb in the krypton in professional manner, a permanent attachment to table (tanks and regulators ordered and will be in-house soon)
2. Add GN2 manifolds, clean polyflo with covers
3. Faraday cup 1 air leak?
   1. Pete calls this FC#2, but yes it leaks
4. Implement John’s idea to perform QE scans without grounding the cathode
   1. I asked John to ALSO add capability to short/bias through the small SF6 resistor tank, as a backup plan; he already has the port, but needs to instrument
5. Repair the prep chamber (ion pump, cesiator, remove “bad” puck replace with good one, NEG activation feedthrough). Let’s not attach ion pump cables to pumps during bakeout anymore
   1. Replace LM gasket, secure
   2. Isn’t there SL in there – is it bad???
6. Make a photocathode with 5mm mask
7. Measure lifetime
8. Laser ccd, is it upstream of power meter?
9. Laser power oscillation, put seed on heater block like CEBAF?
10. Pockel cell and HV switch, do we have this gear?
11. Lead shielding at dump, cups, apertures and master slit
12. Rebuild the 350kV gun, align the electrode, button it up for installation on UITF beamline in May

QCM

1. Cryodiode/heater chassis for temp monitoring (RTDs),
2. decarad
3. Interlock chassis for things RF related: arc detector, IR detector, waveguide pressure?
4. Stepper chassis

MeV beamline

1. Design the waist-height beamline
2. Add a spectrometer line
   1. Joe/Shaun updating elegant/ME model
3. Finish the UHV ion pump supplies
4. PSS BCM
5. Construct the dif pump can section, clean room. Attach it to the QCM (it will restrict access to the QCM, will this interfere with Cryo work?)
6. Order chromox and/or YAG screens

All the things we discover running beam:

1. QE tool won’t abort
2. Beam comes out of gun low
3. MDC valves seem sketchy. Sufficient air pressure?
4. Beam on chopper YAG screen lost in brilliant glare of camera LED
   1. I think YAG K302 is observed from below, so Hor corrector upstream might be backwards
5. Should we devise a simple nomenclature for steering that is not in conflict with actual songsheet names? Viewer 1, lens 1, corrector 1, etc.,
6. Orientation of the songsheet opposite to flow of beam from control room
7. Magnet peculiarities: hysteresis, model vs real performance, type of trim card
   1. keV magnets are in OK shape
   2. There is space for a third rack, but requires moving 20A supplies + some cables for blower above the rack
8. Can video change automatically when viewers are inserted, can one viewer go in and automatically retract another?
9. Too long to switch picoammeter scales
   1. Keith changed the scan rate; he suggests works better w/ autoscale than fixed scale – might be a software bug; we need to ask for improvements when performance isn’t good enough, let software work on it

Note from Curt Hovater:

Chopper:  
Power amp tested and ready to go. FCC is ready. The cavities need to be vacuum processed. Water skid does not have full control yet from the FCC. Before this happens the cavity RF power vs detuning with LCW needs to be measured, so we can set up the water skid. A vacuum interlock will also need to be made up through the FCC. Needs 4-5 days to complete with vault open.  
  
Buncher:  
Similar situation as the choppers, but with a more involved vacuum processing. In addition this water skid has valve control so that has to be taken into account and will require a more detailed control algorithm. A week to vacuum process and test the cavity to understand the detuning with RF power. A week to finalize control and get the screens ready for operation. The vault needs to be open for these tests. Note, same people work on Chopper and buncher, so very little can be done in parallel.  
  
1/4 Cryo:  
LCW manifold and feeds to be installed. This is on Neil's radar but do not know the priority.  
HPA Controls: Chad is working on this and believes he will be done in 2-3 weeks.  
Power: Electricians should install the 208 and 480 by the end of the week. RF Blank plates will need to be installed to test the HPA. TBD: Wave-guide air, PSS, and how much time SRF wants to check out the   
cavities.

I would be very surprised if this is ready by 2/9/18...sounds more like   
3/1/18.