Weekly Reporting

WBS 1.01.07 JLAB Management

Week of November 16-22, 2017

**Issues:**

**Accomplishments this week:**

SLAC technicians visited JLab to witness CM assembly.

CMTF recovering after an unexpected power outage.

Several staff members attended TTC and the technical workshop at FNAL.

Preparing several BCRs for November presentations.

Received BCR approval to add 16 EZ cavities and 11 RI cavities to baseline scope.

Finalized Mod 011 with ALATUS 4.5 K CB contract.

New procurement staff member offer accepted, start date is 1 December.

JLab SOTR training will be held 29 Nov and 8 Dec if needed. Please let Mitch Laney know if anyone plans to attend.

Completed the verification of the rate change BCR for JLab scope.

**Upcoming Activities:**

28 Nov – 2 Dec 2018 – ESS Cryomodule Review (Drury, Preble)

7 May 2018 - Collaboration Meeting @ SLAC

8–10 May 2018 – OPA Review @ SLAC

Weekly Reporting

WBS 1.04.06 JLAB Cryomodules

Week of November 16-22, 2017

**Issues**:

**Accomplishments this week:**

BCR was approved for additional cavities to mitigate schedule delays.

Working on BCR for management and QA LOE adjustments.

Completing specification and package for competitive procurement of cavities to be produced from 133 material order.

Processed change requests with cavity vendors related to BCR CS-066 (last month’s restart and rework path BCR).

U-tubes for fast cooldown are being leak checked. Meeting with Cryo group planned to review and discuss u-tube installation procedure.

J1.3-01 – In storage on Injector Test Cave roof. Shipping caps have been removed.

J1.3-02 – In storage on Injector Test Cave roof.

J1.3-03 – Removed from CMTF. Testing caps have been removed.

J1.3-04 – Continued cold testing of CM04. J. Sekutowicz is participating in CM04 testing. HOM tuning – all are tuned to above specification. Four cavities tested – no sustained FE. Short-term unplanned power outage in Test Lab interrupted CM-04 testing resulting in lost shifts on Sunday, Monday and Tuesday.

J1.3-05 – Currently at WS5. Warm couplers installation in progress. Reverse plumbing welding in progress. Beam pipes in progress.

J1.3-07 – Currently at WS3. Tuners installation complete. VV at WS4; demag complete.

J1.3-08 – Currently at WS2. Two-phase pipe leak check complete. Heaters attached; Ti sheets complete. MLI and Mag shields installed.

J1.3-09 – Currently at WS2. Cavity string rolled out on Thursday 16-NOV.

J1.3-10 – Seven of eight cavities qualified for string assembly. Plan to start string assembly on 3-DEC and roll-out on 15-DEC. One cavity is currently NX-900 and may be set aside. This could potentially delay string assembly.

Cavity Tests:

305 NX-A retest in D7 (Q0~2.3e10, FE free in D5), FE onset 15.5 MV/m, Q0(16) = 3.5e10, radiation limited. Plan to rinse/retest in D7.

138 NX-A first test (D8), FE free, Q0 (16) = 3.3e10, admin limited to 23.6 MV/m, Qualified for string assembly.

Plan to test 310 in D8 Tuesday, 21 Nov. Three cavities are loaded onto D5 top plate (293, 314, 327) and planned for testing on Tuesday, 28 Nov.

Awaiting response from JLab Physics Division leadership to coordinate additional space in Test Lab high bay to support rework/retro-fit activity.

**QUALITY**:

Working on Equipment Transfer documentation.

**Upcoming Travel/Meetings:**

ESS Cryomodule Review Nov 28-Dec 2 (Drury, Preble)

WUXI Vendor Visit to China Dec 4-8 (Cheng, Legg)

EZ Vendor Visit Dec TBD dates (Burrill)

EZ Vendor Visit Jan 14-19 (Reece)

Weekly Reporting

WBS 1.04.06 Cryomodules - LERF Conversion

Week of November 16-22, 2017

**Issues:** Need SLAC to ship SSAs, they need BCR.

**LERF accomplishments this week:**

Controls/Networking:
The VLAN for remote access from SLAC was constructed.  Ten Linux Virtual Machines (VMs) for Virtual Desktop Infrastructure (VDI) were also built.  Minor configuration was done in preparation for deploying the LCLS-II environment.  Met with Sonya Hoobler (SLAC) to discuss groundwork for controls environment.  The new VLAN within the LERF is done.  Three of the control room workstations are ready to be moved to this network.  Once done, they will be reconfigured to match the VDI hosts.  Working with Matt Cyterski (SLAC), we finalized the plan for initial remote PLC testing.  Network info for preprogramming the PLC was provided to Matt.  The PLC will be shipped following the holiday.  While waiting for it to arrive, we will install the Rockwell software and licensing.

Lab electricians are being trained next week to handle the removal of the klystrons from zone 3 and 4. They will also be able to help out on the installation of the new waveguide.

Safety Assessment document is still in progress

Waveguide procurement is awarded. Kevin visited the MEGA Ind. last Friday to discuss staging and delivery of the components. It was discovered that the E & H mitered bends with the standard part number would be delayed 18 weeks. We have redone the design using SLAC style bends so that deliveries could begin in as little as 10 weeks.

3/8” Heliax order of 6,000’ has been awarded

7/8” Heliax for TLM has been delivered

Waiting on personnel to do cryomodule shuffle, this is now scheduled for 11/30/2017

Continued work on WIKI site for documentation: wiki.jlab.org/lerf

**Upcoming Activities:**

Complete Safety Assessment document

Weekly Reporting

WBS 1.04.08 JLAB Cryoplant System

Week of November 16-22, 2017

**Issues:**

**Accomplishments this week:**

* Traveled to Mecos to witness the cold compressor motor/bearing spin tests. Testing successfully demonstrated the performance requirements.



LCLS-II CP1 Cold Compressor Drives



Cold Compressors Under Test

* CP1 4.5K upper cold box installation of the lower shell is underway. The root pass weld is scheduled to be completed the week of November 27
* CP1 4.5K lower box intermediate leak check of the HP, MP, and LP streams of the current piping was completed. Two streams had no detectable leaks, the third had 1-2 leaks which are in the process of correcting.
* CP1 4.5K lower box internal instrumentation and internal piping is 50% complete.
* CP1 4.5K upper and lower cold boxes have been moved closer for manufacturing of the CP2 upper cold box.
* A CP2 HP warm helium compressor was delivered to SLAC on November 20th. 11 of 12 compressors have now been delivered.
* The oil processor will be leak and pressure test beginning of Dec 2017. Need to have SLAC decision of the location for oil processing by November 30th pending shipping of 60 barrels of compressor oil to SLAC in December.

**QUALITY**:

* Discussed Equipment Transfer process with SLAC and FNAL. Coordinating Cryoplant information for transmittal to SLAC; need to ascertain if the documents they want are part of our work thus far.
* Met with Cryoplant reps to begin Equipment Transfer Documentation organization and setting a schedule for delivery to SLAC.
* Updated the PEMP Vulnerabilities list to capture current risks and retire others.

**Upcoming Travel/Reviews:**

SLAC visit for installation planning Nov 28th (Kessler/Hogan/Bevins)

Visit PHPK for 4.5k CB Monthly Schedule Status Nov 30th (Peshehonoff/Hogan)

QA Visit to PHPK in early Dec (Macha/Lenzer)

Visit AES Dec 5 (Arenius/Torres/Martin)

Weekly Reporting

WBS 1.02.03.05.12 LLRF

Week of November 16-22, 2017

**Issues:** None

**Accomplishments this week at JLab:**

* LLRF Coordination/Documentation:
* LERF project: LERF ICD is out for review. SLAC is taking a closer look at their deliverables.
* SLAC BCR is working its way through the system (needed to ship hardware to the JLAB/LERF).
* Resonance/Interlock Chassis:
* FMC board: The first article board shipped yesterday and Rama is working on the BMB7 firmware to test the board. Rama will have it tested tomorrow so we can give the go ahead to build the remaining boards.
* Temperature sensor board: PCB is being assembled in house. Should be completed next Monday.
* Power supply distribution board and VAC/Digital I/O boards are assembled and waiting testing.
* Stepper motor board: The board is waiting to be assembled. This will be completed by Monday.
* Chassis parts: Andre is sending enough to build two chassis. Still have not received the parts. We are hoping to start that next Tuesday.
* Piezo boards: Joshua is sending 4 boards. Have not received them yet.
* Interlock Board/Chassis:
* Work at this time is on hold until needed for 3.9 GHz.
* Common Power Supply/Chassis/Boards:
* TheGun PS chassis is completed. Still waiting on the pictures of the front and back panels so we can get the labeling the same as the last Gun PS unit. The chassis is ready for shipping**.**
* CMTF/LERF
* Installing the cables, couplers and switches in the CMTF is on hold because of CM04 testing.
* The Heliax for the LERF has been awarded and should arrive in 3-4 weeks.
* LERF LLRF instrumentation cables: We are waiting on final Captar from Andy to start ordering cables.

**Upcoming Activities:**

* CMTF cable/coupler/switch installation on hold.