Weekly Reporting

WBS 1.01.07 JLAB Management

Week of Dec 14-20, 2017

**Issues:**

**Accomplishments this week:**

Conducted Accruals for 1.4.8

Conducted 1.4.6, 1.4.8 and 1.4 Monthly Performance Review Meetings.

Presented and received approval of the 2K CB Schedule Adjustment BCR.

Prepared and presented 4.5K CB Contract Mod BCR at the 20-Dec Special CCB.

Began cold testing of CM05.

Completed a clean room audit with help from S. Berry.

Quality: Revised/updated Risk Registry; continued reviewing and interviewing for Quality Engineer support position

**Upcoming Activities:**

21 December 2017 – JLab Director’s Issues & Action Items Review of LCLS-II

25 January 2018 – JLab Director’s Issues & Action Items Review of LCLS-II

22 February 2018 – JLab Director’s Issues & Action Items Review of LCLS-II

20-22 March 2018 – Director’s Review @ SLAC

29 March 2018 – JLab Director’s Issues & Action Items Review of LCLS-II

7 May 2018 - Collaboration Meeting @ SLAC

8–10 May 2018 – OPA Review @ SLAC

Weekly Reporting

WBS 1.04.06 JLAB Cryomodules

Week of Dec 14-20, 2017

**Issues**: Proposal accepted to increase CM05 testing to include cooldown studies will extend CM testing schedule by two weeks to the end of January.

**Accomplishments this week:**

Continuing work on BCR for management and QA LOE adjustments. There is concern regarding the difference in the baseline plan for LOE accounts compared with guidance from SLAC project office. FY2018 is currently underfunded by 50%.

Discussed November VARs.

Finalized costs for CM shipping BCR. Presentation at CCB was moved to January.

Preparing award BCR for HEP tool in January to adjust p6 cost and schedule.

Package for competitive procurement of cavities to be produced from 133 material order was released. Bids are due back on 8-JAN.

The award for 16+16 optional cavities to Zanon is planned for release this week.

Clean room audit completed with help from S. Berry during December on CM10 string. Final report in preparation – expect in early January.

J1.3-01, J1.3-02 – In storage on Injector Test Cave roof awaiting parts for retro-fit/rework.

J1.3-03 – Investigating cavity four warm coupler.

J1.3-04 – Currently at WS5. Completed cold testing of CM04. Bayonet box removed. BL vacuum gauge installed. Beam pipe operations to remove end cap in progress. Plan to move to retro-fit area.

J1.3-05 – Currently in CMTF. Demag and alignment on Wednesday 13-DEC. Cooled down on Thursday 14-DEC. Began testing on 18-DEC. Plan to test until end of week then go to 4K during holiday break. We plan to developed the details of a fast cooldown plan with SLAC & FNAL during the first week of January.

J1.3-07 – Currently at WS4. HOM tuning complete. MLI installed. Vac Vessel installed. Alignment of cold mass to Vac Vessel in progress.

J1.3-08 – Currently at WS3. Installing MLI on ¼” cool down tubes. Removing split rings for machining. Removed PICs to go to vendor. Magnet lead soldering in progress.

J1.3-09 – Currently at WS2. Leak Check of 2 Phase pipe complete. MLI and Mag shields in progress. Prep to roll out under UCM at WS3.

J1.3-10 – Started string assembly on 03-DEC, leak check completed on 14-DEC and rolled out on 19-DEC.

J1.3-11 – Four cavities qualified for string (135, 328, 330, 332).

Retro-fit / rework area in Test Lab High Bay is ready to receive CMs. CM-04 is the first module in the plan.

Cavity Tests:

328 (TD) D7 first test 14 Dec, Q0(16)~3.2e10, quench 23.7 MV/m, FE free, Qualified for string.

330 (NX950) D5 first test 18 Dec, Q0(16)~3.3e10, quench 26, MV/m, FE free, Qualified for string.

332 (TD/NX950) D5 first test 18 Dec, Q0(16)~2.7e10, quench 23.4 MV/m, FE free, Qualified for J1.3-11

331 (NXA/B 950) D5 first test 18 Dec, Q0(16)~1.8e10, quench 30.6 MV/m, FE onset 28 MV/m, Plan to rinse and retest in D7 or D8 as a cross-check.

Upcoming tests:

L2-116 (NX-900) is planned for R&D testing, Q0 vs magnetic field.

In support of string builds and vendor payments, we have given preference to untested cavities from the vendors. We have a significant backlog of cavities (~17) requiring rinse, retest that we will fit in as testing slots in the queue arise. This list includes eight cavities from string 6 (vented).

**QUALITY**:

Working on Equipment Transfer documentation.

**Upcoming Travel/Meetings:**

Clean Room Audit 4-20 Dec (S. Berry)

EZ Vendor Visit Dec 18-20 (Gonnella)

EZ Vendor Visit Jan 14-19 (Reece)

EZ Vendor Visit Feb 12-15 (Wilson, Laney)

RI Vendor Visit Feb 15 (Wilson, Laney)

TTC Milan Feb 6-9 (TBD)

Weekly Reporting

WBS 1.04.06 Cryomodules - LERF Conversion

Week of Dec 14-20, 2017

**Issues:**  None

**LERF accomplishments this week:**

The test PLC from SLAC (credit: Matthew Cyterski) was brought online.  The two new Windows PCs built for local/remote PLC programming were also setup.  Remote access from SLAC to JLAB's Linux VDI was successfully tested.  From this secured VDI network, SLAC staff verified access to the Windows PCs.  Additionally, we are constructing an EPICS test to ensure EPICS Channel Access (CA) across these key VLANs.  The three servers have also been delivered and will be installed shortly

Work continues to prepare HPA racks for new waveguide installation. These racks will be raised 2” to accommodate the new waveguide.

Operational Safety Procedure (OSP) for LERF testing of the LCLS-II CMs is progressing well, we are meeting to discuss the radiation assessment on Friday.

Last piece of the cryomodule shuffle is to relocate the C37 module in the zone 2 location, the baseplates were located & grouted earlier this week. All is now ready to move it into position & install U Tubes, this will likely not be cooled down till the spring CEBAF physics run is completed.

CryoCon diode temperature monitor controllers have been ordered, 4 units @ 8 channels; we need 28 so this will allow for 4 spare channels. This is the same unit that is used in the CHL & CMTF.

We had the third review of the cryocan – cryogenic connection box for the CMs, stub-ups contract should be released in early January.

Sketch of the clean room design was sent to vendor for pricing. This will straddle the region between the two CMs.

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

**Upcoming Activities:** None

Weekly Reporting

WBS 1.04.08 JLAB Cryoplant System

Week of Dec 14-20, 2017

**Issues:**

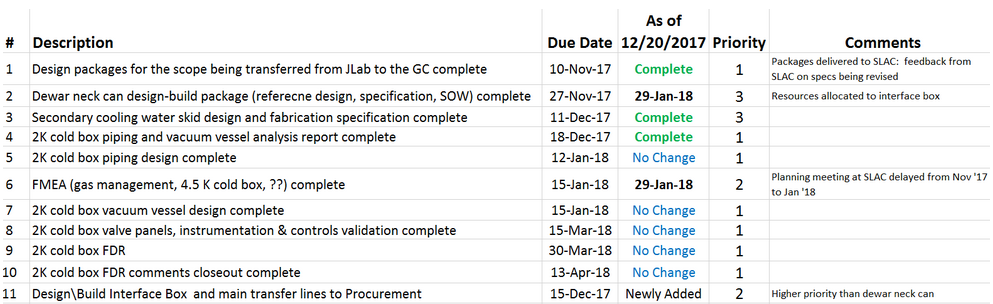
**Accomplishments this week:**

4.5K Cold Box Status

* CP1 Upper Cold Box bottom dished head has been positioned into place for welding. The manway is scheduled to arrive from Mid Ohio for welding onto the cold box vacuum shell.
* CP1 HCB internal piping is complete, work is centered on installing instrumentation and insulation.
* Cold Box control panels for both CPs is complete and ready for shipment with one exception waiting for delivery of two pressure transducers.
* CP2 upper cold box top head has been rotated horizontally and being prep'ed for valve pant leg installation.  Large amount of upper head piping spools are complete and ready for installation.  Heat exchangers are ready. HX-2 leak repair is completed when end pipe cap is cut off for installation
* Cryoduct assembly is being worked and shows good process.  One long cryoduct section internal piping is complete.
* Cold Box vacuum skid assemblies is progressing . Work centers on mounting of control panels and main skid components. Parts/pumps and piping spools are ready to be installed
* CP2 vacuum shells will be sent to Mid Ohio for prep work in the next few weeks.
* ALATUS did not like the lack of UT (non-destructive ultrasonic testing) on the vertical platform supports and requires a redo to meet Hopper seismic compliance, PHPK will use material from CP2 to complete CP1 with new material to be ordered for CP2.
* Issue of internal 4.5K cold box flex hose contraction and expansion under operating and non-operation modes is being addressed by PHPK. The rods were installed during piping spool testing and will be removed once the spool is installed into the cold boxes and has the piping supports installed. PHPK indicated the design will support proper operation of the flex hose for both positive and vacuum operating conditions.

Engineering continued to focus on completion of the 2K cold box assembly design during the past week.

**Cryoplant Engineering Status**



**QUALITY**:

Planning to attend final leak test of CP#1 Upper Cold Box early January.

**Upcoming Travel/Reviews:**

Upper 4.5K Cold Box Final Leak test and Fabrication Status, ~15th January

FMEA Workshop, SLAC, January 17/18th

Oil Purifier FDR, 8th January

SLAC 4.5K Cold Box Re-Assembly Meeting at JLab, 24th January

Weekly Reporting

WBS 1.02.03.05.12 LLRF

Week of Dec 14-20, 2017

**Issues:** None

**Accomplishments this week at JLab:**

* LLRF Coordination/Documentation:
  + SLAC LERF team meeting. Nothing to report.
  + LERF project: LERF ICD is out for review.
  + SLAC BCR is working its way through the system (needed to ship hardware to the JLAB/LERF).
* Resonance/Interlock Chassis:
  + The Resonance chassis is assembled except for piezo cards.
  + Piezo boards: These are being tested at FNAL.
* Interlock Board/Chassis:
  + Work at this time is on hold until needed for 3.9 GHz.
* Common Power Supply/Chassis/Boards:
  + TheGun PS chassis was completed and shipped*.*
* CMTF/LERF
  + Installing the cables, couplers and switches in the CMTF is on hold because of CM04 testing.
  + LERF LLRF instrumentation cables: Dave is reviewing the LLRF instrumentation cables. We expect to order them in January.

**Upcoming Activities:**

* LERF cable installation ~ January