Weekly Reporting

WBS 1.01.07 JLAB Management

Week of February 8-14, 2018

**Issues:**

**Accomplishments this week:**

Preparing a bundled BCR for the CP that includes MCC mods, Oil Processing mod and the Cryogenic valve award.

Assembled a team with the charge to review assembly processes and procedures as well as plan and conducting various tests related to BPM flange assembly.

Released Cryo-can RFP for CM testing in LERF.

Preparing CM04 for shipment to SLAC.

Awarded Top Plate for 2K CB.

**Upcoming Activities:**

6-7 March – FAC Review

20-22 March – Director’s Review @ SLAC

1-3 May – LCLS-II HE ICR

7 May – Collaboration Meeting @ SLAC

8-10 May – OPA Review @ SLAC

15-17 May – LCLS-II HE Director’s CD-1 Review

19-21 June – LCLS-HE CD-1 Review

Weekly Reporting

WBS 1.04.06 JLAB Cryomodules

Week of February 8-14, 2018

**Issues**:

**Accomplishments this week:**

Continuing work on BCR for management and QA LOE adjustments. The BCR processed previously by LCLS-II management does not include what remains for CM management and integration. FY2018 is currently underfunded by 50%. Latest update provided to Burrill.

Planning package BCR for additional cavities was approved via email. Received updated direction to order 32 cavities as part of award for additional cavities from 133 mat’l. Finalizing technical evaluation. Expect award before end of February pending DOE approval.

Evaluating BPM assemblies on first five CMs to verify hermeticity.

J1.3-01 - Moved to WS6; started rework. Disass’y of Warm coupler 8 in progress. Preparing for gas guard valve installation. Investigating effects of shipping including hermeticity of beamline vacuum.

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

J1.3-03 – At WS6 (retro-fit area) awaiting Gas-guard valves. JT Valves cut out; prep for Gasguards started.

J1.3-04 – At WS6. Checked as-built alignment. Rework traveler completed. Shipping traveler in progress. Documentation roll up in progress.

J1.3-05 – Beam pipe reconfiguration in progress.

J1.3-07 – Currently in CMTF. First round of testing complete with average usable gradient of 17.7 MV/m; Total usable voltage = 147 MV; Average Qo before ~30 g/s cool down = 2.0E+10; Two cavities out of spec due to FE; Plan for 8-cavity GDR and another round of Qo measurements. Warm up scheduled for 02/22 but may be extended as CM-08 is delayed due to BPM issue.

J1.3-08 – Currently at WS4. Final instrumentation completed. Final torquing completed. HOM tuning completed. 50K shields welded, except for bpm and SPQ section. On hold pending resolution of BPM issue.

J1.3-09 – Currently at WS3. Alignment Completed. Installing Tuners. VV leak check completed.

J1.3-10 – Currently at WS3. Mate to UCM in progress. Installing extended Tuner Assy.

Welding two-phase piping in progress.

J1.3-11 – String assembly started 5-Feb with roll out planned for 16-Feb. Pumped down and currently in leak checking.

J1.3-12 – Three cavities have been qualified for the string.

Tests presented in SRF Weekly Mtg were previously reported.

Planned Cavity Tests:

L2-155 (TD) first test in D7 on Tuesday, 13 February

L2-165 (TD, first test), L2-166 (TD, first test), L2-278 (TD, re-test) in D5 on Wednesday, 14 Feb.

L2-250 (TD) first test in D8 on Thursday, 15 Feb

**QUALITY**:

Prepared a scope for JLab Quality System audit specific to Cryomodules, in the process of collating and incorporating feedback on it. Also submitted the January 2018 Significant NCR report.

**Upcoming Travel/Meetings:**

EZ Vendor Visit Feb 12-15 (Wilson)

RI Vendor Visit Feb 15 (Wilson)

EZ Vendor Visit Feb 13-19 (D. Gonella)

FAC Mar 6-7 (E. Daly, K. Wilson)

EZ Vendor Visit Mar TBD (K. Macha)

EZ Vendor Visit Apr TBD (Gonella)

Weekly Reporting

WBS 1.04.06 Cryomodules - LERF Conversion

Week of February 8-14, 2018

**Issues:**  None

**LERF accomplishments this week:**

2/9/2018 - Most all of remaining cable has been ordered.

2/8/2018 - Electricians are working on the PSS panel, AC power for SSAs in zone 4

S&A have installed new monuments in the vault as the LCLS CMs will obscure those typically used.

CM floor plate anchor point coordinates were relayed to S&A and they are marking them now.

All new waveguides have been received with the exception of the SLAC style miters. Some of those are in transit and expect by Friday.

All 15 SSAs delivered to the LERF Gallery have been placed in their designed position.

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

Weekly Reporting

WBS 1.04.08 JLAB Cryoplant System

Week of February 8-14, 2018

**Issues:**

**Accomplishments this week:**

**2K Cold Box**

1. Implementing engineering change request (ECR) from SLAC
   * Bypass flow performance requirement changed from 36 g/s to 80g/s.
2. Top plate awarded (this will be included as GFM to 2K CB vendor) .
3. Rerunning engineering analysis of vacuum vessel & piping associated with ECR
4. Holding FDR date of 28-March despite change in performance requirements.
5. P&ID being updated along with process flow modeling

**4.5K Cold Box Status**

1. PHPK has repaired the leak in the upper cold box for CP1.
   1. The vessel has been pumped down with no indication of leaks
   2. PHPK will continue pump/backfill to reduce the helium background.
2. Feb 12th was deadline for completion of leak test for CP1 Lower CB without an impact on delivery date to SLAC.
3. Shipment for delivery schedule moved out to 12-April-2018.
4. Progress on the remaining 4.5K cold boxes components continues.

**Warm Helium Compressors**

1. Lessons learned from the first warm helium compressor installation are being collected and evaluated.
2. Awaiting installation plan for the remaining 11 warm compressor systems.

**Oil Removal Vessels**

1. 9 of 11 vessels for CP1 have been delivered onsite @ SLAC.
2. Last two vessels for CP1 are scheduled for delivery @ SLAC next week.
3. First three vessels for CP2 are scheduled for delivery @ SLAC next week.

**Cryoplant Engineering Status**



Engineering continued to focus on completion of the 2K cold box & Interface box assembly design.

**QUALITY**:

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

**Upcoming Travel/Reviews:**

* ~~Preproposal Technical Review of IBX~~ 07-Feb-2018 - Complete
* ~~Final leak check for He gas storage tanks~~ 08-Feb-2018 - Complete
* Purifier FDR @ vendor (AET) ~~09Feb-2018~~
  + Postponed due to weather new date 20-Feb-2018
* 4.5K cold box final leak check ~Week of Feb 19th
* 4.5K cold box re-assembly meeting @SLAC ~Week of Feb 26th
* MCC Vendor Site visit (acceptance testing) 8-9-March-2018
* FAC Review Mar 6-7th
* Director Review Mar 20-22nd
* 2K Cold box FDR 28-Mar-2018
* DOE OPA Review May 8-10th

Weekly Reporting

WBS 1.02.03.05.12 LLRF

Week of February 8-14, 2018

**Issues:** None

**Accomplishments this week at JLab:**

* Resonance/Interlock Chassis:
  + Individual boards are out for final review.
  + Ongoing: Dave is coordinating the purchasing of parts and boards for the LERF
* Interlock Board/Chassis:
  + Work at this time is on hold until needed for 3.9 GHz.
* Common Power Supply/Chassis/Boards:
  + No report …design done
* LERF
  + LERF LLRF instrumentation cables: Dave is working with Kevin to get the cables ordered or use existing cables from JLAB overstock*.*
  + My self and Mike McCaughan are working on functional procedures for the cavity tests.
  + Larry Doolittle sent me an updated functional LLRF features which I am editing now.
  + I am working on a document for the SLAC EPICs folks that define cavity test needs for the LERF

* CMTF
  + Plan is to get time for Piezo/GDR testing later this week.

**Upcoming Activities:**

* LERF RF cable installation ~ April when the LLRF Racks arrive.