Weekly Reporting

WBS 1.01.07 JLAB Management

Week of March 8-14, 2018

**Issues:**

**Accomplishments this week:**

Completing presentations and conducting dry runs for the Director’s Review next week.

Preparing BCR for the Control Enclosures award.

Evaluating RFPs for Interface Box.

CMs remain on production hold.

Sent the procurement package for 32 cavities plus options to DOE.

Building a resource loaded what-if schedule that includes the impacts of the CM BPM bolt change as well as the UPC and tuner assembly bolt checking.

Evaluating RFPs for LERF Cryo-can Assembly.

Provided SLAC an updated equipment delivery schedule for all remaining deliveries for incorporation into the GC award package.

2K CB drawings and specifications are complete. FDR scheduled for 28 March.

**Upcoming Activities:**

19 March – LCLS-II HE Risk Meeting @ SLAC

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 March 8-14, 2018

**Issues**:

Awaiting submission of CM management LOE BCR.

**Accomplishments this week:**

Preparing award BCR for LERF cryo hardware to be presented in April.

Working on VARs.

Continue BPM testing and evaluation of completed CMs and planning for CM rework.

Preparing for engineering and QA audits.

Working with Cryo group to understand and improve cold flow for fast cooldown in CMTF. Planning to add valve to HX to improve bypass.

J1.3-01 - Moved to WS6. Waiting to move to WS4 for VV removal. BL leak check confirmed leak tight.

J1.3-02 – Moved to WS6.

J1.3-03 - Moved to WS5. Removed support post covers. Prep to remove warm couplers.

J1.3-04 - Moved to WS5. Warm coupler removal complete. GasGuard valve removal complete. Instrumentation flange removal in progress. BL leak check confirmed leak tight.

J1.3-05 – Moved to storage. BL leak check confirmed leak tight.

J1.3-07 – Currently in CMTF. Warmed up. U-tubes removed. BL leak check confirmed leak tight. Preparing to check magnet leads.

J1.3-08 – Currently at WS4. Loctite installation on UCM hardware complete. Installing portable cleanroom in preparation for beamline vent. Working with cavity group to develop slow bleed up procedure. Retrofit traveler in second draft. Cavity group working on BPM hardware replacement procedure.

J1.3-09 – Currently at WS3. Instrumentation in progress. Installing RF cables. Fasteners on UCM were removed, Loctite applied, reinstalled and verified torques. Alignment check showed string still in spec.

J1.3-10 – Currently at WS3. Magnet lead soldering complete. Removing, applying Loctite and reinstalling fasteners on UCM. Alignment checked.

J1.3-11 – Leak-tight. On hold pending resolution of BPM issue.

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

J1.3-13 – 2 of 8 cavities have been qualified for the string.

Cavity Testing

254 (TD) first test, D8, 27 Feb 2018, Q0(16) = 3.4e10, Quench 20.5 MV/m, FE free, Qualified.

250 (TD) first test, D7, 2 Mar 2018, Q0(14) = 2.6e10, Quench 14.3 MV/m, FE free,

Not qualified.

319 (TD) first test, D5, 5 Mar 2018, Q0(16) = 3.0e10, Quench 20.8 MV/m, FE free, Qext FP = 5e10, Will need New FP, retest.

305 (TD) retest (previous FE onset 11.4 MV/m), D5, 5 Mar 2018, Q0(16) = 2.7e10

Quench 24.5 MV/m, FE onset 22 MV/m, Plan to rinse then retest.

253 (TD) retest (previous FE onset 10.7 MV/m), D5, 5 Mar 2018, Q0(16) = 3.3e10, Quench 22.8 MV/m, FE free, Qualified.

144 (TD) retest (previous FE onset 16 MV/m), D8, 6 Mar 2018, Q0(16) = 3.0e10, Quench 25.4 MV/m, FE free, Qualified.

Planned testing - 304 (NX-A) retest (previously FE) in D7 Tue 13 Mar 2018.

**QUALITY**:

Consolidated suspect, non conformance tags for 24 eyebolts on SSAs atop the CMTF. These eyebolts do not have the proper size and load ratings and are thus suspect.  All others, including those in the LERF, are usable and remain untagged. SLAC (Scott Wenholz) has communicated that they will be declared ORPS but the entry has not yet been made.

SLAC is coordinating a QA audit for FNAL and JLab the week of March 19, specifically for Cryomodule assembly. A charge has been sent to the appropriate personnel but the lines of inquiry have not yet been finalized. Stephen Smith will represent JLab on the five person team.

**Upcoming Travel/Meetings:**

Director’s Review Mar 20-22 (Daly)

EZ Vendor Visit Apr TBD (Gonella)

EZ Vendor Visit May TBD (H. Park)

EZ Vendor Visit Jun TBD (C. Reece)

Weekly Reporting

WBS 1.04.06 Cryomodules - LERF Conversion

Week of March 8-14, 2018

**Issues:**  None

**LERF accomplishments this week:**

IP address listing for all devices can be found at: <https://wiki.jlab.org/lerf/index.php/Network>

Work started on the raised floor behind the SSAs to route and protect the RF Heliax cables.

Received the cleanroom drawings from the vendor for approval. This is the cleanroom needed to connect the two cryomodules in the LERF.

Drawings of the waveguide support directly above the SSAs were completed and sent to the Installation Group.

Weekly Reporting

WBS 1.04.08 JLAB Cryoplant System

Week of March 8-14, 2018

**Issues:**

**Accomplishments this week:**

**2K Cold Box**

1. The request for proposals (RFP) was issued last week; 07-Mar-2018.
   * Proposals are due back on the 9th of April.
2. FDR scheduled for 28-March.
   * Charge & Agenda for FDR in finalized.
3. Cold compressor cabinets delivered to SLAC.

**4.5K Cold Box Status**

1. PHPK is continuing to work to make progress on the final leak check.
   1. Shell vacuum pressure continues to improve with – showing progress.
2. Final leak check of internal piping for lower cold box for CP1 nearing completion.
3. Shipment for delivery expected to move out from 12-April-2018.
4. Last of the eight turbine housings delivered to SLAC.

**Interface Boxes (no Change)**

1. Evaluating engineering change request (ECR) from SLAC to Interface box performance requirements.
   1. ECR requires design change to internal piping.
2. Request for proposals received 23-Feb-2018.
3. Vendor proposals are competitive and under evaluation.

**Cryoplant Engineering Status**



Engineering continued to focus on preparation for the 2K cold box FDR & Interface box awards.

**QUALITY**:

Planning to attend final leak test of CP#1 Upper Cold Box in March.

**Upcoming Travel/Reviews:**

* 4.5K cold box final leak check ~Week of Mar 19th
* 4.5K cold box re-assembly meeting @SLAC Postponed
* 2nd MCC Vendor Site visit (acceptance testing) TBD
* 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 March 8-14, 2018

**Issues:** None

**Accomplishments this week at JLab:**

* Resonance/Interlock Chassis:
  + Ongoing: Chassis assembly is progressing. We found a problem with the piezo board. The wrong connector had been put on the board. We have similar connector left over from an older project that we are going to use. The connector will have to be de-soldered and the new one put on. Dave let Andre know of the problem.
  + We have one BMB7 2.0 that we will use to test the chassis.
* Interlock Board/Chassis:
  + Work at this time is on hold until needed for 3.9 GHz.
  + Genfa Wu contacted me about the 3.9 GHz interlock. In general they will be the same as the 1.3 GHz CM. There is difference in that there are two vacuum readings for the coupler vacuum.
* Common Power Supply/Chassis/Boards:
  + Dave is obtaining stickers so the boards will say 10 A fuses instead of 7. Additionally a large sticker will point out the change.
* LERF
  + LERF LLRF instrumentation cables: On order.
  + LLRF Front end requirements: These are complete for now.
  + HOM Measurements: Met with Wes, Mike and Ed concerning the HOM measurement. Dave has a budgetary quote for the parts. We has the general concept of the control needs. We are proceeding forward with this.
  + Reference system and LO: Tomasz found a Rohde & Scharz signal generator that can be used and sent it out for repair. He also walked the LERF to see how the distribution cables will be laid out.
* CMTF
  + HOM: Putting together a similar automated HOM measurement for the CMTF. Sent it to Larry King for review.

**Upcoming Activities:**

* LERF RF cable installation: This may take place before racks arrive. We are running out of time.
* Test Resonance/Interlock chassis: Hopefully by the end of March.