Weekly Reporting

WBS 1.01.07 JLAB Management

Week of March 22-28, 2018

**Issues:**

**Accomplishments this week:**

Participated in the Director’s Review.

Finalizing bottoms up EAC for the Project Management WBS, will complete CP and CM EACs at the end of the week.

Conducted 1.04 Performance Review Meeting.

Conducted 2K CB FDR.

Preparing BCR for the Control Enclosure award.

CMs remain on production hold.

Finalizing 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.

Participated in project directed QA Assessment.

**Upcoming Activities:**

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 22-28, 2018

**Issues**:

Production hold due to BPM leaks.

**Accomplishments this week:**

Preparing award BCR for LERF cryo hardware for submittal in April.

Reviewed VARs with SM.

Prepared monthly progress update.

Cavity award package at DOE. Need final confirmation of quantity to award.

Developing plan for reworking (27) NX900 cavities as an alternative.

Submitted new BPM assembly procedures and travelers for project review. Incorporated initial feedback from project. Awaiting project approval.

Continue evaluation of completed CMs and planning for CM rework. Finalizing p6 what-if schedule.

Completed internal QA audit. Participated in SLAC-sponsored engineering and QA audits.

Submitted L4 BCR for approval in March to perform HX modifications to improve cold flow capability in CMTF. HX has been pulled from test cave and disassembled.

J1.3-01 - Moved to WS6; Waiting to move to WS4 for VV removal

J1.3-02 - Moved to WS6

J1.3-03 - Moved to WS5, Removing warm couplers, Prep for retrofit.

J1.3-04 - Moved to storage; Waiting to move to WS4 for VV removal

J1.3-05 - Moved to storage

J1.3-07 - Warmed up. Removed from cave at WS5.

J1.3-08 - Loctiting UCM hardware complete pending meeting with FNAL; Portable cleanroom installed in preparation for beamline vent; Working with cavity group to develop slow bleed up procedure; Cavity group working on BPM hardware replacement procedure; Retrofit traveler in progress.

J1.3-09 - Fasteners on UCM, removed, loctited, reinstalled and torqued.

J1.3-10 - Alignment complete; Tuner installation complete; Removing, loctiting and reinstalling fasteners on UCM.

J1.3-11 - Magnet and pre-alignment complete. Two-phase welding complete and leak check in progress.

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

J1.3-13 – 4 of 8 cavities have been qualified for the string.

**QUALITY**:

QA representatives from SLAC, JLab and FNAL conducted a QA audit on each Lab's Cryomodule assembly process, focusing on bolt retention and proper torque values for various elements, including the pCM.  Both JLab and FNAL were reviewed by the team for one day each; there were no significant issues or findings. In preparation for the audit, JLab QACI (Bruce Lenzer) conducted a pre-review against the teams Lines of Inquiry, the results of which were entered into the Assessment database for evaluation and determination of action. Both exercises identified an opportunity to improve document transfer between FNAL and JLab, specifically to ensure that appropriate drawing and spec revisions are identified and sent to the right persons in a timely manner.

A final element of this QA audit was JLab's recommendation to coordinate future QA reviews with the parallel effort of the Technical Review team, which has the charge of reviewing XFEL drawings and specifications against LCLS-II design adaptations, also including assembly, transport and installation.  The teams specific recommendation was that future reviews focus on high risk issues, where both QA and Engineering feasibility are evaluated in depth. A final report from the SLAC LCLS-II audit lead is expected this week.

SLAC submitted an ORPS report to DOE for the 24 suspect eyebolts.  However, the event was categorized as a management concern, not S/CI per the ORPS manual.  SLAC has communicated that replacement eyebolts will be sent and that JLab is to replace and quarantine the subject eyebolts. We have not received these replacement parts yet, thus the eyebolts remain in place and tagged.

**Upcoming Travel/Meetings:**

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 22-28, 2018

**Issues:**  None

**LERF accomplishments this week:** No report.

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

Weekly Reporting

WBS 1.04.08 JLAB Cryoplant System

Week of March 22-28, 2018

**Issues:**

**Accomplishments this week:**

**2K Cold Box (no change from last week)**

1. The request for proposals (RFP) was issued; 07-Mar-2018.
   * Proposals are due back on the 9th of April.
2. FDR scheduled for tomorrow (28-March-2018).
   * Charge & Agenda for FDR in finalized.
3. All reports and presentation materials have been posted for pre-brief.

**4.5K Cold Box Status**

1. PHPK is continuing to work to make progress on the final leak check.
   1. Internal piping leak found and repaired; in process of repairing another.
2. LCB – Performing leak check of internal piping.
3. UCB2 - All pressure vessel installed, piping is being added. Internal framework is finished. Bottom head and skirt assembly is nearly completed.
4. LCB2 - Pieces delivered this morning to build frame; plan to begin fabrication of internal frame today.
5. Cryoduct2 - Vertical section in inspection.
6. Vacuum pump skids nearing completion.

**Interface Boxes (no Change)**

1. Engineering change request (ECR) received from SLAC 05-Mar-2018.
   1. Purpose of ECR is to mitigate hard-piped connection of 2K CB.
   2. ECR requires design change to internal piping.
   3. JLab suggested u-tube crossover in lieu of internal piping change; SLAC cryo engineering evaluating.
2. Vendor proposals are competitive and technical evaluations complete.
3. Award expected early April 2018.

**Machine Control Centers (MCC)**

1. Factory acceptance testing witness visit held 09-Mar-2018.
   1. Issues identified with wire designation – this requires rework.
   2. Seismic mounting details still need to be resolved.
2. Delivery postponed to May, due to rework of wiring and buss insulation.

**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 April.
* Internal JLab/Fermi QA audit of the project held last week.
  + Final report will be issued n the coming weeks.
* Looking into potential QC program enhancement of mechanical connections.

**Upcoming Travel/Reviews:**

* 4.5K cold box monthly schedule review 29-Mar-2018
* 4.5K cold box final leak check ~Week of Apr 2nd
* 4.5K cold box re-assembly meeting @SLAC Postponed
* Procurement visit to LN2 vendor Week of 26-Mar
* 2K Cold box FDR 28-Mar-2018
* 2nd MCC Vendor Site visit (acceptance testing) TBD
* Visit to GHe vendor for acceptance Week of 09-Apr
* DOE OPA Review May 8-10th

Weekly Reporting

WBS 1.02.03.05.12 LLRF

Week of March 22-28, 2018

**Issues:** None

**Accomplishments this week at JLab:**

* Resonance/Interlock Chassis:
  + Ongoing: Chassis assembly is progressing. All of the Piezo board connectors have been modified. The chassis are just about finished but still waiting on more BMB-7 boards.
  + We should be able to test out one of the chassis starting next week.
  + We ordered up a sample board of the C1635 (Res/Int Power distribution board). We felt like there were enough changes to the board that we needed to test the modifications. The boards will be here in a few days and we will have one build/tested within 1 weeks. Than we will send Andre the files for that board which is the last of the 5 boards.

* Interlock Board/Chassis:
  + Work at this time is on hold until needed for 3.9 GHz.
* Common Power Supply/Chassis/Boards:
  + Stickers for each of the fuse locations have been produced and mailed out.
* 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 ordered the matrix switch. It’s due in about 7 weeks. HOM Heliax will be on order by the end of the week.
  + Reference system and LO: No action, focus on CEBAF.
  + JLAB Controls people attended a presentation on the status of the LLRF controls presented by Sonya Hoobler.
  + Dian said the RF parts (isolators, couplers, SSA should ship next week).
* CMTF
  + HOM: Putting together a similar automated HOM measurement for the CMTF. Sent it to Larry King for review.
  + CMTF Resonance Automation

**Upcoming Activities:**

* LERF RF cable installation: This may take place before racks arrive. We are running out of time.