Weekly Reporting

WBS 1.01.07 JLAB Management

Week of Jul 8-14, 2016

**Issues:** Material is on the critical path for the cavity production. Discussions with RI on customs procedures – still need to follow up with DESY customs person to see if we can do this.

**Accomplishments this week:**

1st SRF cavities (4 ea) were received from RI!

Prepared the SLAC monthly financial report.

Prepared BCR information for replacement HX.

Finalizing the cavity schedule acceleration BCR.

Received the draft for CP special funding in order to pull reqs into FY16.

**Upcoming Activities:**

Weekly Reporting

WBS 1.04.6 JLAB Cryomodules

Week of Jul 8-14, 2016

**Issues:** Niobium tubes are on the critical path for RI and Zanon cavity production. Efficient transfer of lessons learned from FNAL pCM assembly in order to reduce JLab pCM assembly duration.

**Accomplishments this week:**

BCR presentation of replacement heat exchanger for CMTF has been prepared and presented.

Prepared FAC presentation for dry run.

Continuing discussion on approach for improved flux expulsion and reviewing path forward high level description within project.

Prepared list of components to be procured for spare CMs to be funded by 1.08.

Cavity Procurement

RI – Continue to make good progress on remaining cavities. Cavity acceptance travelers are ready in the JLab system. Received first four cavities at JLab on 13-July. Tentative first test in VTA on 28-July. Next four cavities destined for FNAL are at Hold Point #3 – once cleared these will be shipped.

See FNAL weekly report for status of material shipments. Currently connection tube materials are critical path for cavity vendors. Customs official at DESY returned to the office until 11-July.

Zanon – 1st article cavities are delayed due to CTM calibration ~ I month, expect DESY to visit 19 July to complete CTM work. Expect 8 cavities to ship ~ 1 August (1 week later than scheduled) and 8 to ship ~1 September. Issues with Ti ring are being resolved with FNAL and JLab support. Single parts fab is progressing well – approximately 25% complete.

Tuner Piezo actuators and stepper motor first article components for production have been received. Initial inspection planned to begin next week.

Prototype tuner frames are undergoing dimensional inspection. Production tuner frame first article inspection at vendor planned for 26-July. Y. Pischalnikov (FNAL SOTR) will participate.

Received and successfully inspected two split rings from Zanon. Plan to evaluate installation by fitting up on AES018.

CM assembly activities:

Magnet and Gate Valve supports are in place. Needle bearing blocks have been installed. Welding of cryogenic piping has been completed. Leak check of cryogenic circuit in progress. Welding 2 phase invar support rings in place.

Cryomodule Test Facility

Coax hardline runs are complete from the fanstack down to where the cavities would connect. Coax runs are being characterized with RF measurements. Prep work has started for installing lead shielding bricks around fan stack. Started routing of new RF and multiconductor cables.

First two qualification bellows from plating vendor were received. Parts have been sent for mechanical inspection.

First shipment of production stainless steel bellows has been received. Some handling issues have been identified and a subset of parts will be returned to the vendor.

Quad lead installation progressing well – S. Makarov (FNAL Magnet SOTR) and Sergio (lead tech) visited to collaborate on process development for lead soldering. 50K intercept installed and torqued on shield.

Visit to shipping fixture vendor to inspect aluminum welds on shipping caps planned for 21-July. Delivery of first article shipping fixture planned to leave vendor during week of 25-July.

The vacuum vessel was demagnetized with the help of Saravan (FNAL SOTR) on 12-13 July. The demag power distribution box provided by FNAL worked very well. The JLab field mapping system worked well. Both will be used during production. Residual total field in the range of 100 – 200 mGauss.

Received first production vacuum vessel on 13-July. Plans for traveling to WXCX in early August are being finalized.

CM Assembly completion in P6 – 19-OCT; CM Testing start in P6 – 20-OCT.

**QUALITY** –

1. Reviewed the proposed copper plating/QC procedure submitted by one of the potential copper plating vendors.
2. Feedback and information exchanged between JLab and Fermilab on the tuner frame Acceptance Criteria Strategy (ACS).

Planned Travel:

* FNAL Visit to witness CM transport from ICB to CMTS 18-20 JUL (Huque, Davis)
* FAC Review, July 19-21
* WXCX Vendor Visit 1-5 AUG
* BLA Vendor Visit 14-18 AUG

Weekly Reporting

WBS 1.04.08 JLAB Cryoplant System

Week of July 8-14 2016

**Issues:**

**Accomplishments this week:**

The LN2 dewar procurement specification was completed and is being circulated for comments.

The procurement specifications for the oil removal vessels are in the final stages of sign off approval.

The FDR date for the 4.5K cold box is 7-8th September. The last of pre-FDR review documentation was delivered (4.5K cold box P&ID).

Bayonet parts for the 4.5K cold box was placed on order to support fabrication for delivery to the 4.5K cold box vendor for 1 November.

Bids for the warm helium gas storage vessels is due for 8 August.

Preparations continued for the FAC review, inclusive of plant installation, 4.5K cold box, 2K cold box, and controls presentations. Dry runs for each presentation was completed.

The 4.5K cold box vendor is in the process of developing the 3D internal piping design for the upper and lower cold boxes.

The design of the transfer line interface boxes continued through the week.

**QUALITY** –

* Reviewed the pressure and leak check vendor data sheets for six of the 12 warm helium compressor body test results.
* Reviewed & commented on the 2K Cold Compressor Final Technical Proposal provided by the vendor.
* Reviewed the vendor test reports for the first six Warm He compressor casings & forgings.
* Conducted meeting to discuss QA support in a follow-on trip to PHPK tentatively in early August.
* Met with CryoPlant staff to discuss the M: drive for storing vendor supplied documents.

**Upcoming Activities:**

FAC Review, July 19-21

Cryoplant BIO Review 9 Aug 2016

Director’s Review 28 Aug-1 Sept 2016

4.5K Cold Box FDR 7-8th Sep 2016

Weekly Reporting

WBS 1.02.03.05.12 LLRF

Week of Jul 8-14, 2016

**Issues:** None

**Accomplishments this week:**

**JLAB**

1. LLRF Coordination/Documentation:
   * Fabrication: We met with the fabrication group leader to help expedite the LCLS-II LLRF boards and chassis. Plan is to meet with him weekly to keep our tasks moving along. In addition, we are using Physics fabrication resources.
   * Designer manpower: We are using Physics department EE board designers as best we can to keep our schedule.
2. Resonance/Stepper Motor Board/Chassis:
   * Resonance chassis: 2nd chassis is complete and we are starting the third.
   * FMC connector board: Rama modified the board (a part was made wrong) and is testing BMB7 with the steppers and piezos. Tests should finish up next week.
3. Interlock Board/Chassis:
   * FEM: Tests are complete. Onish is to mark up the schematic and Rama will find a designer to modify the layout.
   * ARC/IR boards: Are being assembled. Should be ready to test by Tuesday.
   * FMC connector board (interlocks): With the design flaw found in the resonance version of this board, modifications will be delayed until those tests are complete. Plan is to have one ready to test by 8/15.
   * Interlock Chassis: Schedule has slipped to 9/1/16 for chassis completion because of designer and fabrication resource issues.
4. Common Power Supply/Chassis:
   * Additional chassis are in fabrication (for LBNL). More to follow.

**Upcoming Activities:**

1. JLAB:
   * Continue prototype tests and assembly (resonance, interlocks, power supply)