Weekly Reporting

WBS 1.01.07 JLAB Management

Week of Aug 26-Sep 1, 2016

**Issues:** Need to develop and qualify the new processing steps for SRF cavity and material. This will have significant impact on the SRF cavity cost and schedule.

**Accomplishments this week:**

Participation in the Director’s Review.

We continue to negotiate with the cavity vendors for cost and schedule impact of changing production requirements. We have received proposals from both cavity vendor and have requested clarification from one. Attending meetings to finalize the plan forward for the SRF cavity production contracts.

**Upcoming Activities:**

Weekly Reporting

WBS 1.04.6 JLAB Cryomodules

Week of Aug 26 – Sep 1, 2016

**Issues:** Efficient transfer of lessons learned from FNAL pCM assembly in order to reduce JLab pCM assembly duration. Funding mechanism for spare CM components needs to be clarified. Cost and schedule impacts due to cavity recipe development effort at vendor.

**Accomplishments this week:**

Participated in Directors Review at SLAC.

BCR for cavity development that includes increased EP, increased baking temperature and four development cavities has been added to the working list.

Received direction from project to modify EP bulk removal to 200 microns by weight on balance of first articles (8 units) at Zanon. Additional direction has been received to include 900 deg C annealing. Vendor (Zanon) has received modification from JLab for this scope.

Received direction from project to not hold production cavities. Instructions included modifying recipe to include 900 deg. C bake and 200 micron EP at both vendors for the remainder of production cavities. Cost and schedule impact is being formally addressed by vendors.

Technical status meeting on cavities was cancelled due to Directors Review.

Provided monthly EV progress to JLab PMO.

Continuing preparations for combined CM PRR with FNAL in mid-September.

Cavity Procurement

RI is focusing on two bare and two dressed cavities with 900 deg. C and increased EP (200 microns by weight). The two bare cavities will ship from RI on 20-Sep and the two dressed cavities will ship 4-Oct. JLab received monthly report.

Zanon has started bulk EP – cavities 9-16 have received 200 micron by weight. Doping is planned for next week. All first articles are past hold point #1. Eight of the first articles are past hold point #2 - the first two will ship from Zanon in early September and the balance of six by the end of September.

Single cell testing is on-going - results are reported in collaboration cavity status spreadsheet.

Continuing first article inspections at JLab (0009, 0010, 0012, 0014). Results from CAV0012 – 2.8 x 10^10 at 16 MV/m, No field emission onset, admin limit at 22 MV/m due to cable heating. Results from CAV0009 – 2.7 x 10^10 at 16 MV/m, quench limit at 17.1 MV/m. More detail can be found in cavity status spreadsheet. CAV0010 will be re-rinsed and is currently scheduled for testing on 7-Sep.

See FNAL weekly report for status of material shipments. Last shipments of connection tubes arrived at vendors. No further concerns with material deliveries for production cavities.

First copper plating vendor components are in progress. Sets are expected to ship from Nomura in late September. After two attempts, the second copper plating vendor did not pass qualification.

Currently performing receipt inspection on first set of cu-plated bellows and spools that were received from SLAC. Expecting to receive second set of cu-plated bellows and spools from SLAC next week at JLab. Discussing possibility of having SLAC plate more sets of bellows as a schedule risk mitigation.

Shipping fixture delivery date to JLab has been delayed due to welding issues with the aluminum shipping caps. Expected to ship to JLab during the week of 9/19.

Some FPC parts in circulation were returned to CPI.

Received request from SLAC to RF process 4 sets of FPCs.

Set up warm coupler storage area outside of VTA. Painted floor and positioned cabinets and workspace.

JLab SOTR and lead assembly tech traveled to CPI to work with their assembly staff.

CM assembly activities:

All tuner and split ring rework has been completed. Magnetic shielding end caps are all installed. Installation of 50K coupler intercepts continues. Leak checking magnet lead flange has been halted as a modification to the flange is required. A procedure being developed for this modification. End positions of process piping were adjusted where possible per alignment results. Fluxgate measurements are in progress and are consistent with FNAL pCM observations.

Awaiting procedures focused on electrical methods for installation of instrumentation from FNAL.

Cryomodule Test Facility

Continued routing of new RF and multiconductor cables. Completing installation of coaxial waveguide supports on mezzanine near SSAs. Painted floor of CMTF after minor welding on shielding. CMTF mag field distribution was re-mapped. Some high field areas have been identified – mitigations are being planned.

CM Assembly completion in P6 – 20-OCT; CM Testing start in P6 – 21-OCT – this testing start includes the activities required to connect and cooldown the CM. Cavity testing as part of CM testing is expected to begin about three weeks after CM arrives in CMTF.

All components are in-house for CM02 cavity string. Production team is considering an early string assembly start in advance of the October p6 date.

**QUALITY**

* Continue with the process of reporting on Significant NCRs, which includes monitoring and submission of new ones as well as those that are ready for closure.
* Preparing QA talk for the L2CM Production Readiness Review at Fermilab on Sep 13 & 14.
* JLab QARs and SOTRs met to discuss the results of the qualification sample provided by Inta. After a second try, the results are still negative. Various bare spots and blistering were found throughout the bellows at multiple locations. JLab SOTR will make a statement and recommendation to the procurement SO.
* Document reviews and discussions are on-going with WXCX via Fermilab on the production status of the vacuum vessels and upper cold masses.

**Upcoming Travel:**

* + PRR at FNAL 13-14 SEP
  + OPA Review at FNAL OCT

Weekly Reporting

WBS 1.04.08 JLAB Cryoplant System

Week of Aug 26 – Sep 1, 2016

**Issues:**

**Accomplishments this week:**

The LN2 dewar and 4160V MMC procurement specifications remain in circulation for comments and/or approval.

The 2K compressors reviews of the design are tentatively set for October and December 2016.

The FDR date for the 4.5K cold box is 7-8th September. The review will be held in Delaware at the Air Liquide Research Center. An agenda is in place.

Work continued on the 60% 2K cold box assembly design documentation. A date for the 60% design review has been set for 20 Sept 2016.

An successful installation coordination meeting took place at SLAC on Monday, 29 August. Topics included installation roles and responsibility coordination of JLab and SLAC.

The design of the transfer line interface boxes and related transfer line continued through the week. A review of the interface box design and connected transfer line remains set for January 2017.

The installation/BIO design review has now been set for 18 Oct 2016.

Presentations for the Director’s review were completed and presented at the Director’s review held on August 30-Sept 1.

**QUALITY**

* Participated in Procurement Readiness Review that was held at JLab on August 26 for the Oil Removal System.
* Reviewed the technical specifications for the warm He Storage Tank and the 30K Gallon LN2 Dewar.
* A visit to the warm helium compressor vendor was held for 30-31 August for compliance verification.
* Continue to work with JLab CryoPlant staff on the M: drive for storing vendor supplied documents.

**Upcoming Activities:**

Director’s Review 30 Aug-1 Sep 2016

4.5K Cold Box FDR 7-8th Sep 2016

2K Cold Box PDR 20 Sept 2016

DOE Status Review 12 Oct 2016

Installation Design Package PDR 18 Oct 2016

Interface Box/Transfer Line PDR January 2017

Weekly Reporting

WBS 1.02.03.05.12 LLRF

Week of Aug 26 – Sep 1, 2016

**Issues:** None

**Accomplishments this week:**

JLAB

* + No report.

**Upcoming Activities:**

JLAB:

* + Continue prototype tests and assembly (resonance, interlocks, power supply)
  + Next week Directors Review
  + FNAL pCM LLRF tests (September)
  + DOE Review (October)