Weekly Reporting

WBS 1.01.07 JLAB Management

Week of Aug 5-Aug 11, 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:**

We continue preparations for the Director’s review.

Month end data submitted

JLab hosted the the Cryo Systems retreat at 10-11 August.

Working on several BCRs. One BCR for added scope, LN2 dewar and helium gas tanks, and several contract mod BCRs.

The cold compressor procurement package is still at DOE for review.

Preparing for potential vendor visit for the Beam Line Absorber.

FNAL staff here at JLab supporting the cavity tuner installation. This was a very good visit.

**Upcoming Activities:**

Director’s Review

Weekly Reporting

WBS 1.04.6 JLAB Cryomodules

Week of Aug 5-Aug 11, 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. Funding mechanism for spare CM components needs to be clarified.

**Accomplishments this week:**

Continuing discussion on approach for improved flux expulsion. Awarded contract modification to vendor (RI) to expedite four cavities.

Received direction from project to modify EP bulk removal to 200 microns by weight on balance of first articles (8 units) at Zanon. Vendor (Zanon) is evaluating impact on cost and schedule. Vendor plans to start bulk EP during week beginning 22-August.

Continuing with weekly technical status meeting that covers R&D activities at FNAL and vendor development activities. Still need input on schedule and plan from FNAL for R&D activities associated with single cell and multi-cell cavities.

Reviewed agenda and making plans to participate in combined CM PRR with FNAL mid-September.

Cavity Procurement

Received four first articles from RI at JLab (0009, 0010, 0012, 0014) and four first articles at FNAL (0011, 0013, 0015, 0016). Receipt inspection activities are on-going. Received initial feedback from receipt inspection at FNAL and passed along to RI. All sixteen cavities from RI are now at partner labs for acceptance testing.

RI First Article Acceptance Testing on third and fourth first articles:

CAV0004 initial test, limited by faulty input cable: Q0 = 2.15e10, 21 MV/m. After warming and replacing cable: Q0 = 2.15e10 @ 16 MV/m, Emax = 21 MV/m limited by the rf cable. Minor radiation initially detected but processed away.

CAV0001 tested: Q0 = 2.2e10 at 16MV/m and Emax = 24 MV/m (administratively limited). No radiation detected.

Plan to test two cavities next week – CAV0009, then CAV0012.

See FNAL weekly report for status of material shipments. Currently connection tube materials are critical path for cavity vendors. Last shipments planned to arrive at vendors by the end of August.

Identified issue related to technical requirement for dye penetrant testing of HV components at cavity manufacturers.

Awarded cu-plating to Nomura for spools and bellows. Plan to present BCR to incorporate vendor delivery schedule. Vendor requested funds for additional fixturing to support shipping four sets of hardware per month after ramp-up.

Resolving inspection issues related to dimensional issues for production long and short spools.

CM assembly activities:

Preparations for tuner installation completed. HOM Cooling blocks installed. Re-measured and adjusted all HOM Can center frequency and rejection. Installed replacement carbon balls in tracks. Replaced bearing on face of cavity. Demagnetized tooling and manufactured special tools for tuner installation. FNAL tuner SOTR visited and guided installation of tuners onto cold mass assembly.

Vacuum Vessel - JLab received PHPK's subcontractor's welding docs related to the longitudinal welds on the pCM VV.

JLab receiving inspection of MC coupling line F10010017 is held up because lack of vendor documents. Fermi is informed.

Received from FNAL response related to kit lists and significant number of minor parts needed for completion of the pCM.

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

Cryomodule Test Facility

Continued routing of new RF and multiconductor cables. Installing coaxial waveguide supports on mezzanine near SSAs. Developing scheme for mixing valves to support CM cooldown.

CM Assembly completion in P6 – 20-OCT; CM Testing start in P6 – 21-OCT.

**QUALITY** – On vacation; no report.

**Upcoming Travel:**

* WXCX Vendor Visit 1-5 AUG
* BLA Vendor Visit 14-18 AUG
* Directors Review 29-30 SEP
* PRR at FNAL 14-15 SEP

Weekly Reporting

WBS 1.04.08 JLAB Cryoplant System

Week of Aug 5-Aug 11, 2016

**Issues:**

**Accomplishments this week:**

The LN2 dewar procurement specification remains in circulation for comments and/or approval. A BCR presentation was prepared to move the supply of the dewar from SLAC to JLab for WBS 1.04.08.08 for presentation on August 11, 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.

Work continued on the 60% 2K cold box assembly design documentation. A plan is being put together for a LCLS-II review date.

Bids for the warm helium gas storage vessels was received on 8 August. A BCR is being presented to purchase two additional vessels.

An installation and commissioning “retreat” was held at JLab for the 10-11 August. Development of presentations for cryoplant installation and commissioning plans are underway. Detailed installation schedules for the cryoplant were developed for the retreat.

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

A request for a 30% BIO actual technical design review has been suggested in lieu of an overall design approach presentation.

Presentations supporting the LCLS-II Director’s Review began with dry runs planned during the week of August 15-16th

**QUALITY** –

* A visit to the warm helium compressor vendor is planned toward early August for compliance verification.
* Continue to work with CryoPlant staff on the M: drive for storing vendor supplied documents.
* Reviewed the inspection, test plan and procedures from Air Liquide for the Brazed Aluminum Heat Exchanger of the 4.5K Cold Box.

**Upcoming Activities:**

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 Aug 5-Aug 11, 2016

**Issues:** On travel will report next week

**Accomplishments this week:**