Weekly Reporting

WBS 1.01.07 JLAB Management

Week of Aug 12-18, 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.

We are preparing VARs.

Warm helium tanks are going out for bid.

DOE approved the cold compressor procurement package, LCLS II signed the PCR, and the contract was sent to the vendor for signature.

Several people visited the prospective BLA vendor.

**Upcoming Activities:**

Director’s Review 30-AUG to 1-SEP

Weekly Reporting

WBS 1.04.6 JLAB Cryomodules

Week of Aug 12-18, 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:**

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) has evaluated impact on cost and schedule. Vendor plans to start bulk EP during week beginning 22-August.

No technical status meeting covering R&D activities at FNAL and vendor development activities due to conflicts with preparation for Directors Review. Still need input on schedule and plan from FNAL for R&D activities associated with single cell and multi-cell cavities.

Received agenda and continuing plans to participate in combined CM PRR with FNAL mid-September.

Cavity Procurement

Vendors have returned from August vacation and have restarted efforts. RI is focusing on two bare and two dressed cavities with 900 deg. C and increased EP (200 microns by weight). All four cavities have reached hold point #1. Zanon is preparing to perform increased EP (200 microns by weight) on the second batch of eight first articles.

Single cell testing is on-going – JLab tested TD-1. Results are reported in collaboration cavity status spreadsheet.

Continuing first article inspections at JLab (0009, 0010, 0012, 0014). Plan to test two cavities this week – CAV0009 (8/18), then CAV0012 (8/19).

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.

Reviewed JLab, FNAL and SLAC pressure systems requirements related to dye penetrant testing of HV components at cavity manufacturers. Developing proposal to waive this requirement for vendors as it was not required for prototype cavities or for XFEL cavities.

Expect to receive first two sets of cu-plated bellows and spools plated by SLAC next week at both JLab and FNAL. An additional two sets will be shipped the following week. Discussing possibility of having SLAC plate more sets of bellows as a schedule risk mitigation.

Returned ~40 bellows to manufacturer for rework of flange sealing surfaces.

Procurement lead, welding inspector and SOTR are visiting shipping fixture vendor to witness end cap welding and inspect first article shipping frame.

A contingent from JLab, FNAL and SLAC visited the BLA vendor to discuss technical and programmatic issues for this procurement. Most notably, two BLA assemblies may be available for particle-free studies in early 2017. Summary report to follow this week.

FNAL has received the request from JLab to provide a set of English drawings for the BLAs. Simple translation initially proposed by FNAL is not practical. Upon further review, the set of drawings are not related to the 3D model currently being used for interconnect design activities. Both JLab and FNAL are have proposed solutions. It is understood that there are no changes from the XFEL design to the LCLS-II designs.

CM assembly activities:

Tuners have been installed - tuner motor on cavity six needs to be replaced with spare from FNAL. The 50K RF Cable intercepts have been added. Received several crates of requested parts for the pCM from FNAL. Installing instrumentation. Monitoring magnetic fields after tuner installation.

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 – specified warm valve needed.

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

**QUALITY** –

* Provided QA slide to go into JLab presentation for the dry-run of the Director’s Status Review.
* Provided examples of completed JLab inspection travelers to Mike Skonicki, also for the dry-run to the Director’s Review.

**Upcoming Travel:**

* Shipping Frame Vendor Visit 17-AUG to 18-AUG
* Directors Review 30-AUG to 1-SEP
* PRR at FNAL 14-15 SEP

Weekly Reporting

WBS 1.04.08 JLAB Cryoplant System

Week of Aug 12-18, 2016

**Issues:**

**Accomplishments this week:**

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

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. Final documentation posting (supporting the review) is scheduled to be completed by 19 August. An agenda has been released.

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

Bids for the warm helium gas storage vessels was received on 8 August.

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 has been set for January 2017

A request for a 30% BIO actual technical design review has been suggested in lieu of an overall design approach presentation. The installation design review has now been set for 18 Oct 2016.

Presentations dry runs supporting the LCLS-II Director’s Review was completed and final presentations were posted.

**QUALITY**

* Reviewed and provided comments on the 4160V Motor Control Center specification.
* A visit to the warm helium compressor vendor is planned 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 12-18, 2016

**Issues:** None

**Accomplishments this week:**

JLAB

* LLRF Coordination/Documentation:
  + Preparing LLRF presentation for Directors review.
  + Reviewed the PRL/LO baseline design.
  + We are continuing to upload board and chassis documentation to the SLAC website as it is made available.
* Resonance/Stepper Motor Board/Chassis:
  + Resonance chassis: The second chassis was modified with the newer power supply board. The third chassis is in assembly.
  + Updated Resonance FMC board is out for manufacture should be here next week.
  + Stepper boards: two waiting to be tested (for chassis three and four).
* Interlock Board/Chassis:
  + Interlock Chassis: Schedule continues to slip (now 9/15/16) for chassis completion because of higher lab priority (Hall B) taking resources (engineer, designer and fabrication).
  + FEP: During board review, more changes were made to the lay out and the board was delayed. It should go to manufacture soon.
  + ARC/IR boards: Board is functional but ADC/DACs are still being tested.
  + Interlock FMC connector board (interlocks): Layout is done. Should go out to manufacture tomorrow.
  + Power supply board is still in CAD.
* Common Power Supply/Chassis:
  + Two chassis are complete. Additional chassis are in fabrication (for LBNL/FNAL).

**Upcoming Activities:**

* JLAB:
  + Continue prototype tests and assembly (resonance, interlocks, power supply)
  + Director’s Review
  + FNAL pCM LLRF tests (September)
  + DOE Review (October)