Weekly Reporting

WBS 1.01.07 JLAB Management

Week of May 6-12, 2016

**Issues:** Some material remains to be delivered to the cavity vendors; sheet material from DESY, non-sheet material from FNAL.

**Accomplishments this week:**

First cryomodule production orders are complete. HOM and field probe feedthroughs and beamline gate valves have all been delivered.

Received pricing for spare cryomodule for the above items.

Finalized and reviewed schedule reviews and updates in preparation for the baseline.

Received April VARs forms and performing analysis.

Working on APPs for remaining cryoplant procurements.

**Upcoming Activities:**

Weekly Reporting

WBS 1.04.6 JLAB Cryomodules

Week of May 6-12, 2016

**Issues:** Project schedule currently contains best production cavity delivery from vendors. Project needs to investigate other ways to recover float beyond CM production. Lack of resources (subject matter experts) for CTM refurbishment activities may delay cavity production.

**Accomplishments this week:**

The following list of BCRs has been discussed with the SM and are in progress: Production CM Cancellation Coils (in preparation), HX for Testing Production CMs (in preparation) and Reduction of Number of Shipping Frames (in preparation).

Significant effort on p6 schedule as part of re-baselining efforts.

We are developing an estimate on impact of keeping FPC cold ends under vacuum.

Key dates for pCM (in P6):

Cavity string assembly completed – 05-May-2016.

CM assembly complete – 20-Oct-2016.

Cavity Procurement

Actively working cavity production schedule issues in order to recover schedule float by accelerating vendor delivery rates. Current P6 forecast schedule reflects JLab’s best estimate and shows some negative float for only the first set of cavity deliveries at each PL.

RI and ZANON are making good progress on single parts fabrications.

Prepared draft of Production Cavity Support Team roles and responsibilities. Circulated to FNAL and SLAC colleagues for review and comment.

See FNAL weekly report for status of material shipments. Currently tube materials are critical path for cavity vendors.

Fabrication of four single cell cavities is complete. Flux expulsion tests are scheduled for week beginning 16-May.

Collecting parts and preparing to ship first sets of PICs to RI for first article cavities. Expedited order for input coupler tips in order to ship PICs to vendors before end of May.

Cavity string assembly completed and leak tight to specification. Measuring and setting HOM filters to specified notch frequency. Preparing summary of lessons learned from pCM string assembly activities for presentation at next SRF weekly meeting.

QC performed on remaining shield pipes. Phase 1 assembly traveler released. Support post repair/replacing on-going. Two-phase piping lengths cut, orbital welding ongoing

U-tube male bayonets are being welded for CMTF test caps.

Continue planning for subsequent on-site tests by R&K, scheduled for 5/16 to 5/19.

JLab staff (Cheng, Leung, Lenzer, Macha) presented summary to SRF staff from vendor visits to vacuum vessel supplier.

SOTR completed evaluation tuner frame proposals from vendors. Reviewing minor changes from pCM tuner installation with FNAL SOTR and SMEs prior to award.

Procurement Clearance Request was approved for shipping fixtures. Contract awarded.

Production cavity string bellows kick-off planned Thursday 12-May. Plan to follow up with vendor visit to Pittsburgh PA later in May.

**QUALITY** – The JLab team that visited WXCX provided an information download internally to a large group of folks. Gary Cheng led the meeting and a PowerPoint presentation was used to communicate the details. We explained about the discussions that took place at WXCX on the production processes, machining, welding, testing, and shipping for both the vacuum vessels and upper cold mass assemblies. QA/QC topics, process ‘Hold-Points’, delivery schedules, and follow-up visits were also discussed. The download meeting to JLab folks was informative and engaging. Aside from some of the on-going welding discussions, Fermilab has an action list from the trip that we need to make sure there are no show-stopper items. Since Fermilab is the lead lab of these procurements, information exchange and requests should go through Fermilab, via the established SOTR to SOTR communication channel.

JLab had another QA coordination meeting with Fermilab where we exchanged information on some of the latest activities on the prototype cryomodules and the early stages of production activities. Topics included the WXCX trip, JLab cavity string leak test, JLab offsite warehouse, cavity fabrication progress, summary of vendor test data and how to transfer the information among the partner labs.

The Monthly Significant NCR Dashboard report was submitted to SLAC. Mike Skonicki was delighted to hear that the JLab cavity string is now leak tight, thus meeting the leak spec requirements.

**Upcoming Activities:**

* Cavity Vendor Visit to Germany & Italy May 10-19, 2016
* SSA Vendor visit to JLab for Acceptance Testing May 16-19 2016
* Coupler Vendor Visit to France & Germany May 19-26, 2016
* Cavity string bellows and spools vendor visit May 2016, dates TBD

Weekly Reporting

WBS 1.04.08 JLAB Cryoplant System

Week of May 6-12, 2016

**Issues:** 4.5K Cold Box PDR Action Items, Warm Helium Compressor CDR Readiness

**Accomplishments this week:**

Request for Proposals has been released for the procurement of 2K cold compressors for both CP1 and CP2 cryogenic plants. Responses will be received in May 2016 (one week).

JLab has received 4.5K cold box vendor PDR action item documentation as planned on May 4th. These documents include valve sizing, absorber vessel design details, equipment weights/size, mounting details, MTTR, MTBF, and QC/QA plan. The documentation is being made available to the PDR reviewers with comments due no later than COB EST Wednesday, May 11th. Comments have been received and are being transmitted to the vendor for Monday, May 16

Warm helium compressor skid frame weldments continue to be fabricated at the vendor shop for 4 of the 12 compressor skids. This includes both HP and LP compressor skids. Minor design items based on the completed seismic analysis are being incorporated into the skids. Skid weldments under current construction are not affected.

Peter Knudsen (JLab ME) and Damon Rath (LCLSII designer) have been assigned to the 2K cold assembly design. LCLSII engineering has looked at the preliminary 2K cold box concept envelope and it complies with the needs of LCLSII.

Procurement specifications for the MCCs, oil removal vessels, and gas storage vessels are being released to procurement.

P&IDs have been updated for CP2 and are under final review for release.

**QUALITY**

Reviewing the Project QA Plan as part of the 4.5K Cold Box post-PDR submittals from Air Liquide. Comments are due internally by COB Wednesday May 11th.

**Upcoming Activities:**

* Warm Helium Compressor CDR, 25 May 2016
* AL/JLab HazOp Meeting June 1-2
* Cryoplant BIO Review 9 Aug 2016

Weekly Reporting

WBS 1.02.03.05.12 LLRF

Week of May 6-12, 2016

**Issues:** None

**Accomplishments this week:**

JLAB

* LLRF Coordination/Documentation:
  + Held chassis meeting with Larry and the JLAB team. We also exchanged emails concerning connectors.
  + Dave and Andre are communicating a few times a week on chassis issues.
  + I received a contact from Matt for the SLAC network person. A lab to lab meeting needs to be scheduled. It’s in JLABs court.
* Resonance/Stepper Motor Board:
  + Stepper board is waiting to be tested.
  + Chassis power distribution power board is being fabricated.
  + FMC breakout board: Rama has checked it. It needs to be reviewed by Larry and Josh to make sure it is compatible with BMB7 and Piezo board.
  + Resonance chassis: Front and rear panel should be back next week.
  + BMB7: Rama has the information needed to power up this board and begin communicating with it. He will start later this week.
* Interlock Board/Chassis:
  + FEM: Testing continues. One of the instrumentation amplifiers is drawing excessive current. We are checking the current draw with the spice model and looking at the parts and board layout for errors.
  + Temp board is ready to test.
  + ARC/IR boards: Designer (small change to connector) will get it next week. We expect to have one assembled by early June now.
  + Interlock chassis design is moving forward and has been assigned a designer.
* Common Power Supply/Chassis:
  + Power supply chassis has been tested. 6 volt power supply has 2.3 mV rms. noise ripple which meets specifications.
  + Dave is ordering parts for five more supplies.

**Upcoming Activities:**

* JLAB:
  + Continue prototype tests and assembly (resonance, interlocks, power supply).
  + CMTF: Continue working on documentation, installation and instrumentation.
  + June 20 Rack assembly, test and shake down (JLAB).