Weekly Reporting

WBS 1.01.07 JLAB Management

Week of Sep 2-8, 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:**

Participated in the Director’s Review August 30-Sep 1.

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, requested clarification from one and are awaiting a response regarding a detailed production schedule. Received direction from project to proceed with revised cavity processing recipe.

Participated in the 4.5K Cold Box Final Design Review Sep 7-8th.

**Upcoming Activities:**

Weekly Reporting

WBS 1.04.6 JLAB Cryomodules

Week of Sep 2-8, 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. Planned for presentation in September.

Received direction from project to modify EP bulk removal to 200 microns by weight and 900 deg C annealing on balance of first articles (8 units) at Zanon, as well as all production cavities at both vendors. Vendors have been formally notified.

Participated in joint CM status meeting with SLAC and FNAL.

Continuing preparations for combined CM PRR with FNAL.

Cavity Procurement

RI - 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 - the first two first articles 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). CAV0010 will be re-rinsed and is currently scheduled for testing on 8-Sep.

Reviewed proposals for CMTF HX and have selected vendor. Award planned for next week.

Received FPCs from CPI. Planning to remove parts in circulation beginning Friday.

Preparing cost estimate for RF processing of 4 sets of FPCs for SLAC.

CM assembly activities:

All thermal strapping has been completed. RF cables have been installed and heat stationed, need to be measured. Instrumentation routing/harnessing is on-going. MLI has been installed on 50K cold coupler shields. Magnet lead heat stations have had kapton sheet wrapped around them for electrical isolation and 10 layers of MLI. Currently adding Metglas caps to the bearing block assemblies. Completed the 2K MLI on the cold mass assembly. First production VV has been measured by JLab alignment crew. Currently blanking off VV ports in preparation for leak check. Second bayonet box thermal strapping has been welded. Second end cap beamline support bracket welded in place. Preparing for leak check of pCM vacuum vessel.

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

Cryomodule Test Facility

Assembly of CMTF coaxial waveguide is complete from the (8) SSAs down to the coax/rectangular transitions in the cave. A portion of the lead bricks needed for the enhanced shield walls were delivered and moved up to the work area. A final coat of epoxy sealant has been applied to CMTF cave floor.

T. Arkan and J. Kaluzny visited JLab to review and discuss the pCM cold mass assembly.

Production team plans to start string assembly start during week of 19-Sep.

**QUALITY**

* Preparing QA talk for the CM Production Readiness Review at Fermilab on Sep 13 & 14.
* 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
* DOE Status Review 12 Oct 2016
* Cavity Vendor Visit to RI – First Article Review - TBD

Weekly Reporting

WBS 1.04.08 JLAB Cryoplant System

Week of Sep 2-8, 2016

**Issues:**

**Accomplishments this week:**

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

The FDR date for the 4.5K cold box was 7-8th September. Topics of the review included QA/QC, operation, process design, manufacturing plan, mechanical and electrical design, and P&IDs. Membership of the review included SLAC/JLab procurement, SLAC/JLab engineering, and SLAC project management.

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.

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.

Began internal review of the Director’s Review cryoplant recommendations.

**QUALITY**

* Participated in the 4.5K Cold BOX FDR for QA/QC plan evaluation for entering into the fabrication phase of the procurement.

**Upon coming Activities:**

2K Cold Box PDR 20 Sept 2016

DOE Status Review 12-14 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 Sep 2-8, 2016

**Issues:** None

**Accomplishments this week at JLAB:**

* LLRF Coordination/Documentation:
  + We are continuing to upload board and chassis documentation to the SLAC website as it is made available.
  + Heater: We have a request to send the eight channel heater documentation to SLAC cryo controls.
  + Limit Switch Isolation: JLAB Cryomodule engineering team has a solution for isolating the pCM limit switches and the production CMs. We are following through with adding a resistive network to the limit switch electronics too.
  + All prototype boards have been ordered.
* Resonance/Stepper Motor Board/Chassis:
  + 2nd Resonance chassis: Tested.
  + 3rd Resonance Chassis: In process of being tested.
  + Updated Resonance FMC board: Assembled board is in today.
  + Received four piezo boards from FNAL for the fourth chassis.
  + Chassis four and five are in assembly.
* Interlock Board/Chassis:
  + Interlock Chassis: Schedule is now 10/1/16) for chassis completion.
  + FEP Board: Is out for board is due back this week.
  + ARC/IR boards: No change from last week.
  + ADC/DACs are still being tested.
  + Interlock FMC connector board (interlocks): In process of being sent out for assembly.
  + Power supply board: Is out for manufacture. Due in 9/18.
* Common Power Supply/Chassis:
  + All five chassis are complete. Last three waiting for tests.
  + Building PS test bench.

**Upcoming Activities at JLAB:**

* + Continue prototype tests and assembly (resonance, interlocks, power supply).
  + Next week: pCM LLRF FNAL installation. Rama plans to attend.
  + DOE Review (October)