Weekly Reporting

WBS 1.01.07 JLAB Management

Week of Jun 24-30, 2016

**Issues:** Material is on the critical path for the cavity production. Discussions with RI on customs procedures identified possible streamlining to allow for shipment of cavities through Koln. Need to follow up with DESY customs person to see if we can do this.

**Accomplishments this week:**

Collect June schedule progress.

Prepared BCR information for cavities.

Submitted accrual.

**Upcoming Activities:**

Weekly Reporting

WBS 1.04.6 JLAB Cryomodules

Week of Jun 24-30, 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.

**Accomplishments this week:**

BCRs forms have been submitted for Cu-Plated Bellows/Spools, End Lever Tuners Frames and Cavity Vendor Schedule Acceleration. BCR and associated form for Magnetic Shielding award was submitted and approved.

Flux expulsion discussion planned for 30-June with world-wide experts. Charge, proposed path forward and background materials have been circulated. Goal is to review test results and proposed plans for improving flux expulsion.

Cavity Procurement

Cavity SO (Fitzpatrick) visited RI along with LCLS-II project director.

RI – A total of twelve cavities have been released from hold point two – these cavities have been doped. TUV Nord (third party inspector) witnessed pressure testing for cavity/helium vessel assemblies. Customs documents are being prepared that need approval from DESY customs official (Roessler) who is currently out of office until 11-July.

See FNAL weekly report for status of material shipments. Currently connection tube materials are critical path for cavity vendors. Customs official at DESY will be out of the office until 11-July.

Flux expulsion tests are complete on Tokyo Denkai single cell cavities and show poor flux expulsion. Results will be discussed at upcoming meeting on 30-June.

Zanon – One of eight cavities has been released from hold point 1. Split rings have been fabricated at Zanon, some of which have been supplied to RI. Tolerance issues are being discussed and resolved. Two split ring assemblies are being sent to JLab for independent CMM inspection. Weld development to reduce temperature during cavity/HV welding is progressing. CTM service agreement with DESY was signed by Zanon on 27-June. Final commissioning visit planned for 19-July. First articles will be tuned during that visit.

Follow up meeting was held with S. Chandrasekaran (FNAL SOTR) to discuss plans for demagnetization and magnetic shielding activities. Visit is planned for week of 11-July in support of VV degaussing.

CM assembly activities:

Cold Mass Assembly is on-going. Second layer of magnetic shields installed on all cavities. Helium vessel Metglass installed on lugs modified as requested, isolating first to second layer contact. Metglass and Mu metal caps installed. Magnetic shielding end cap modifications in progress. Upper cold mass has been lowered towards cavity string and needle bearing blocks are being installed. Cryogenic piping being fitup in preparation for welding.

Vacuum vessel QC has been completed. Inspection report is in progress. One NCR has been submitted concerning VV threads sizing and sealing surface finish.

Materials for demagnetizing vacuum vessel are in house and being prepared.

FNAL Tuner SOTR scheduled to visit tuner frame manufacturer near Jlab and support tuner installation procedure development at JLab week of 11-JUL.

Plan for FNAL SOTR to visit on 11-July for Quad Magnet lead soldering support / training.

CM Assembly completion in P6 – 20 OCT; CM Testing start in P6 – 7-NOV.

Continuing to update Bill of Materials in order to highlight missing items. Working with FNAL staff to identify and procure missing items so as not to delay pCM assembly.

CMTF: Coax to waveguide transitions installation in cave is completed. Waveguide sections for SSA area are being prepared. U-tube fabrication is on-going

Sole source document for BLA procurement has been completed. Need to translate current drawing set into English.

Qualification samples from commercial plating vendors delayed until mid-July. First samples require some re-work.

Huque, Torres and Martin visiting shipping frame vendor on 30-June to assess progress and for welding inspection. Expected delivery of first article (week beginning 11-July) to be confirmed.

**QUALITY** –

1. A JLab team, accompanied by staff from SLAC & Fermilab, visited copper plating vendors. This was part of the source selection process for the production beamline bellows and spools on the cavity string. The visit went well, with good discussions and two-way information exchanges. The vendors now have a better understanding of the requirements and the visiting team has a better understanding of the vendor processes and capabilities.
2. Continue to review and provide welding & QA feedback for the production upper cold masses being fabricated at WXCX.

Planned Travel:

* TTC @ Saclay 5-8 July
* WXCX Vendor Visit 1-5 AUG

Weekly Reporting

WBS 1.04.08 JLAB Cryoplant System

Week of Jun 24-30, 2016

**Issues:**

**Accomplishments this week:**

The 4.5K cold box vendor has moved the FDR date from 25th July to 7-8th September. The last of pre-FDR review documentation is due before 19th of August. A preliminary outline of the presentations and list of documentation was provided to JLab/SLAC and has been resolved.

Requisition for the warm helium gas storage vessels has been released with the specification and has been released for procurement of 4 vessels with an option for an additional 2.

All review issues concerning the 4.5K cold box P&ID were resolved during the past week in preparation of the FDR in September.

The warm helium compressor vendor has received 6 heat exchangers for the compressor skid assembly.

Preparations continue for the FAC review, inclusive of plant installation, 4.5K cold box, 2K cold box, and controls presentations.

The design of the 2K cold box assembly continues centered in a round vertical vessel of ~12 foot diameter.

The design of the interface boxes continued through the week.

**QUALITY** - No Report.

**Upcoming Activities:**

Cryoplant BIO Review 9 Aug 2016

4.5K Cold Box FDR 7-8th Sep 2016

Weekly Reporting

WBS 1.02.03.05.12 LLRF

Week of Jun 24-30, 2016

**Issues:** None

**Accomplishments this week:**

**JLAB –**

* LLRF Coordination/Documentation:
  + Participated in last week’s team meeting
  + Fabrication manpower availability continues to slow completion of chassis and hardware. Presently not a schedule risk but we are actively monitoring the progress.
  + Designer manpower has slowed us down too. The loss of an electrical designer (Mid May) is beginning to slow our progress too.
* Resonance/Stepper Motor Board/Chassis:
  + Chassis power distribution power board: Gave distribution board to LBNL. Modifying board for the resonance chassis (increased current on negative rail for piezo).
  + Resonance chassis: 2nd chassis is in fabrication.
  + Gang, Larry and Rama downloaded firmware to the BMB7. Made sure the LEDs worked.
* Interlock Board/Chassis:
  + FEM: Tests continue with the ADC inputs.
  + ARC/IR boards: Is out for board manufacture. Back next week and then fabricate in-house.
  + FMC connector board (interlocks): Lay out to start July 10. Slowed down because of lack of designer.
* Common Power Supply/Chassis:
  + Additional chassis are in fabrication (for LBNL). More to follow.

**Upcoming Activities:**

* JLAB:
  + Continue prototype tests and assembly (resonance, interlocks, power supply)