Weekly Reporting

WBS 1.01.07 JLAB Management

Week of May 20-26, 2016

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

**Accomplishments this week:**

STL and SO attended the Warm Compressor Critical Design Review at the vendor, PHPK. The review went well.

Compiled accruals for submittal to SLAC.

Continue to support finalization of the P6 re-plan.

**Upcoming Activities:**

Weekly Reporting

WBS 1.04.6 JLAB Cryomodules

Week of May 20-26, 2016

**Issues:** Project schedule currently contains best production cavity delivery from vendors. Niobium tubes are on the critical path for RI and Zanon cavity production. Other areas in the project need to investigate other ways to recover float beyond CM production. Lack of resources (subject matter experts) for CTM refurbishment activities planned in June could delay cavity production. Efficient transfer of lessons learned from FNAL pCM assembly in order to reduce JLab pCM assembly duration.

**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), Reduction of Number of Shipping Frames (in preparation), and Fundamental Power Couplers Storage including circulated parts (in preparation). The following items require updates at award and should be viewed as cost only - Cavity Incentives, Cu-Plated Bellows/Spools, and End Lever Tuners Frames. The Beamline Absorbers (BLA) cost-only BCR is delayed until October. Planned meeting to review cost and quantity for shipping frames in advance of BCR presentation.

Cost estimates were adjusted to eliminate cost growth due to replan.

Submitted accruals to JLab PMO.

Cavity Procurement

RI and ZANON are making good progress on single parts fabrications. Lack of connection tube material may cause a schedule delay.

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

RI has identified issue with helium vessel bellows supplier as possible schedule impact, and is investigating alternates to avoid first article delay.

Funding authorized by project for incentivizing Zanon first articles. Contract mod is being prepared.

Flux expulsion tests are in progress. Ninxia single cell cavities have had initial tests. Tokyo Denkai is planned for next week.

Shipped first sets of PICs to RI sufficient for 16 cavities.

Discussed possibility of travel by FNAL SOTRs and SMEs to JLab in order to witness pCM assembly steps as part of the effort to provide efficient transfer of lessons learned from FNAL pCM assembly.

JLab staff (Daly, Cheng, Fischer) traveled to FNAL to witness CM assembly steps, participate in Cancellation Coil and 3.9 CM status review meetings.

Tuner frame vendor kick off meeting was held on 19 May.

CM assembly activities: Shimmed and aligned SC magnet. Two-phase pipe welding is completed. Installing helium vessel heaters, magnetometers and temperature sensors.

Pulled instrumentation leads through piping. Plan to pump down piping in advance of leak checking two-phase circuit. Received center support post.  Began reassembly of upper cold mass assembly.

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.

Repair weldment of vacuum vessel end caps – first one completed, second in progress.

Continuing with coax installation in test cave.

Received remaining drawings from FNAL SOTR for Shipping Fixtures – specifically supports that tie CM to fixture damping mechanisms.

**QUALITY** –

1. JLab team received several manufacturing and welding documents for review from WXCX via Fermilab. Also included are the updated QA plans for the Vacuum Vessel and Upper Cold Mass assembly. Comments and concerns from the JLab team were summarized by the SOTR and forwarded to Fermilab for processing.
2. Looking to better organize the filing and storage of vendor supplied documents on the JLab M:drive. The current folders are high level first separating the documents into CryoModule vs. CryoPlant. The next level down contains the individual components, systems or sub-assemblies. The idea is to create a standard subset of folders by document type for the next level down in the structure tree. Having a standard subset of folders could help with ease of filing and subsequent document retrieval.

**Upcoming Activities:**

Weekly Reporting

WBS 1.04.08 JLAB Cryoplant System

Week of May 20-26, 2016

**Issues:**

**Accomplishments this week:**

The vendor proposals for the procurement of 2K cold compressors for both CP1 and CP2 cryogenic plants, are expected to be received on May 31, 2016.

JLab 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 vendor has been submitting response to the review comments which are now under study by the JLab/SLAC engineering team.

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. The CDR review of the compressors was held on May 25 at the vendor site by video conference. All required topics were covered.

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

P&IDs have been updated for CP2 and are under final review for release. The vendor P&ID for the 4.5K cold box was received on May 19 for review and comment in advance to the HazOp meeting scheduled for June 1-2.

**QUALITY**

1. Participated in the CDR on the Warm He Compressor Skids on May 25, 2016.

**Upcoming Activities:**

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 20-26, 2016

**Issues:** None

**Accomplishments this week:**

JLAB

* LLRF Coordination/Documentation:
  + Working on chassis, components and board procurements
  + CMTF Network waiting on next move by JLAB.
* Resonance/Stepper Motor Board/Chassis:
  + Stepper board has been partially tested (one channel). Looks good.
  + Chassis power distribution power board: Additional boards are being assembled for the other chassis.
  + FMC breakout board: Board is going out for assembly because of the “BG” connector. 5 have been ordered.
  + Resonance chassis: Chassis is in assembly. Fabrication may be slow because of competing priorities.
  + BMB7: Rama powered it up, blinky lights work.
* Interlock Board/Chassis:
  + FEM: Tests continue. Board is slated for a re-spin in mid-June after tests are completed.
  + Temp board is ready to test.
  + ARC/IR boards: This is still with designer (small change to connector).
  + Interlock chassis front panels are ready to go out.
* Common Power Supply/Chassis:
  + Additional chassis will be assembled by the June team meeting

**Upcoming Activities:**

* JLAB:
  + Continue prototype tests and assembly (resonance, interlocks, power supply)
  + CMTF: Continue working on documentation, installation and instrumentation.
  + June 22/23 Rack assembly, test and shake down (JLAB).