Weekly Reporting

WBS 1.01.07 JLAB Management

Week of January 8-14, 2016

**Issues:**

Need Niobium to be delivered to the cavity vendors.

**Accomplishments this week:**

2 days of very productive meetings with Greg Hays on various topics.

Distributed monthly actual reports

Started the review of the funding proposal received from the project.

Preparing BCR and EAC files, details in the L3 reports.

**Upcoming Activities:**

Trip to DESY to develop BPM and HOM absorber procurements.

Trip to Vendors for Cavity Frequency Tuner actuator components.

Weekly Reporting

WBS 1.04.6 JLAB Cryomodules

Week of January 8-14, 2016

**Issues:** JLab pCM schedule is driven by the availability of parts including bellows, magnetic shielding, tuners and GHRP assembly. Need to ship cavity materials to vendors. Need defined process for resolution of NCRs.

**Accomplishments this week:**

The following list of BCRs have been discussed with the SM and are in preparation: Cavity Parts in Circulation Cost, Cavity Tuning Machine (CTM) Cost, Production Tuner Schedule and Offsite Storage Cost.

Cavity string assembly - completed assembly of BPM, quad spool and downstream gate valve subsection and verified leak tight. String awaits copper plated bellows.

Progress on testing end cap fabrication continues. The first of two units is undergoing cold shock, leak check and pressure testing. The second unit has all piping welded. Insulating vacuum jackets have completed receipt inspection.

Material has been released for RI. NbTi materials, tubes and Ti materials are at RI. NbTi materials are being shipped from DESY to RI. Nb sheet has are being shipped from DESY. Materials needed for first articles are expected at vendor site before the end of January at the latest.

Material has been released for Zanon. Nb tubes and Ti materials are being shipped from FNAL to Zanon. NbTi materials are being shipped from JLab to Zanon. Nb sheet is being shipped from DESY to Zanon. Materials needed for first articles are expected at vendor site before the end January.

Vendor Qualification Cavity Status:

**Zanon -** passed Phase I qualification.

**RI**

AES023 – Shipped to JLab; in customs receipt; arrival expected 14-JAN. Testing planned early next week.

RI023 – Shipped to JLab; enroute; arrival expected early next week. Testing planned for late next week.

Manufacturing drawings from RI and Zanon are under review (expected complete by 29-Jan) by JLab and FNAL SOTRs. Significant progress on helium vessel proposed weld joint design from Zanon under review with FNAL design leads.

GHRP parts received from FNAL. Received partial detailed list of modifications from FNAL. No progress on resolution of major NCRs. Assembling Upper Cold Mass subassembly and working with FNAL on welding procedure for Invar rod.

Visit to vacuum vessel manufacturer delayed one week. JLab certified weld inspector will travel during last week of January to PHPK for on-site inspection of vessel.

SOTR and Lead technician traveled to FNAL for training on soldering leads for SC magnet week of January 4, 2016. In addition, they witnessed warm electrical test, magnetic centering measurements, and mock assembly process for quad to beamline. SC quad magnet expected from FNAL on 20-Jan.

Daly, Peshehonoff and Park plan to travel to DESY next week (17-22 Jan) along with FNAL and SLAC colleagues to discuss production BPM and beamline absorber procurements. Aspects of cavity fabrication will be discussed including CTM and cavity parts in circulation.

Planning is underway for a trip with FNAL colleague to visit production tuner component vendors, Phytron for stepper motors and PI for piezos, during second week of February.

Plans for R&K expert to visit 14-15 January for SSA installation & check-out are underway. SSAs are sited; power and water are ready. Testing waveguides are completed.

Recovery plan for copper-plated bellows is being implemented. Eleven long bellows, nine from the second batch and two from the first batch, are processed and ready for installation at into cavity strings – eleven are need for the two cavity strings. Four more are expected from Ameriflex by 21-Jan. One long spool is installed and a second is ready for use if needed. One short bellows are ready for use. Six have been receipt inspected – one was shipped to Epner and three are planned for shipment to SLAC for plating. Two short spools are ready for use. A. Burrill coming to JLab on 14-15 January to provide guidance on acceptance for bellows. FNAL sent rejected long bellows to JLab for further evaluation. SLAC colleagues are conducting material investigations of stainless steel used in bellows fabrication.

CMTF coax waveguide parts are being prepared for installation. Components for installation have been received. Sections are being cut to length.

**QUALITY**

Mike Skonicki provided some preliminary information regarding SLAC’s new request of an NCR Dashboard. The request was initiated by Project leadership at SLAC requesting that each of the partner labs on a monthly basis to submit a summary of all the open Major NCRs. The QAR at each partner lab would be responsible for the submission. More information and a sample template will be provided by Mike in the coming weeks.

Continue to support QA/QC activities relating to the cavity string bellows and spools. In addition to the standard inspection and qualification tests, various bellows are also being visually examined for surface quality on the outside surfaces of the convolutions.

**Upcoming Activities:**

Andrew Burrill is visiting JLab on Jan 14th to review status of the bellows. One of the objectives for this trip is for Andrew to provide inputs to the plating conditions of the various bellows that are being planned for the pCM.

Weekly Reporting

WBS 1.04.08 JLAB Cryoplant System

Week of January 8-14, 2016

**Issues:**

**Accomplishments this week:**

Based on the results of the SLAC power distribution voltage drop study, SLAC has released the HP warm helium compressor skid components for vendor procurement. Vendor has been notified and is proceeding.

A project decision to evaluate a change of the 4.5K cold box upper heat exchanger design from a single core to two core was made. A BCR is being prepared as well as milestone, cost and schedule impacts.

The weekly design coordination meeting was held with the 4.5K cold box vendor (Air Liquide). All action items are being properly addressed in preparation of a preliminary design review for early March 2016. A plan to witness a performance test of the turbine brake system is also being schedule in February 2016.

Antonio C. de Lira (SLAC controls engineer) is visiting JLab Jan 11-15th as part of a plan for his relocation to JLab to work on the LCLSII cryoplant controls beginning in February 2016.

The 2K cold compressor specification changes per SLAC request was completed and is being circulated for signatures and will go to SLAC today.

Design work continued for the compressor room warm helium gas piping installation design. Design completion remains set for February 2016.

**Upcoming Activities:**

4.5K Cold Box Turbine Brake Operations Demonstration, February 2016

Antonio de Lira joining the JLab cryoplant engineering team, February 2016

4.5K Cold Box PDR, Early Mach 2016

Weekly Reporting

WBS 1.02.03.05.12 LLRF

Week of January 8-14, 2016

**Issues: None**

**Accomplishments this week:**

**JLAB**

* LLRF Coordination/Documentation:
  + Reviewing ESD.
  + Dave and Andre are trying to connect. They have exchanged emails.
  + Resonance chassis. FNAL, SLAC and JLAB met to discuss the resonance chassis assembly and firmware. FNAL is to send JLAB four piezo boards by February 15.
* Stepper Motor Board: Undergoing tests. This has been slow because of other commitments, CEBAF operations.
* Interlock Board: FEM parts are on order. New FEM design has been modeled in spice.
* Common Power Supply: Individual power supplies on order. Chassis lay out is being finalized
* CMTF
  + SSA temporary power and LCW is read for vendor tests. Waveguide is assembled and staged.
  + Documentation: Team met to review cables and instrumentation. Hold up is the cable tray.
  + LLRF: RF boards have been tested successfully. They are ready for mating with digital board and chassis assembly.

**Upcoming Activities:**

* JLAB:
  + Test SSAs.
  + Continue prototype tests and assembly (resonance, interlocks, power supply).
  + Work on PDR (agenda and presentations).
  + CMTF: Finalize cable tray location and order it.