Weekly Reporting

WBS 1.01.07 JLAB Management

Week of March 17-23, 2017

**Issues:**

**Accomplishments this week:**

The last JLab procurement award, for the Beamline HOM Absorber, received DOE approval.

JLab received the last tuner stepper motors for the production order. This contract is finished with the exception of any warranty issues.

The final tuner piezo shipment has shipped to FNAL.

We are processing several BCRs for the CP and the CMs.

**Upcoming Activities:**

Director’s Review at SLAC 3-5 May 2017

International Particle Accelerator Conference 14-19 May

DOE Status Review at SLAC 13-15 June 2017

SRF 2017 in China July 2017

FAC at SLAC Late Summer 2017

Weekly Reporting

WBS 1.04.6 JLAB Cryomodules

Week of March 17-23, 2017

**Issues:** Cost and schedule impacts due to cavity recipe development effort at vendors. Impact on cryomodule assembly due to design changes and parts availability associated with microphonics.

**Accomplishments this week:**

CTF down is in progress and currently on schedule to complete work on 7-April.

Completed BCR bundled form for 8 optional cavities, 320 Nb sheets, 35 additional cavities and additional material for 133 cavities.

Developing proposal for possible additional CM design verification and acceptance testing at JLab.

Received DOE approval for the Beamline Higher Order Mode Absorber procurement. This is the final JLab procurement. Award documents are at the vendor for signature.

Cavity Status

Zanon is continuing production with JLab cavity fabrication experts onsite and supervising procedure development and on-going work. Focus has been on machining procedures. First cavities have been welded with approved procedures.

RI has produced approx. 90 cavities up to hold point #1. Four cavities received at FNAL. Next four cavities planned for JLab.

PCCM was held this past week with a focus on developing rework path and testing of cavities.

First four cavities tested at DESY have been returned to RI. Two qualified cavities will be shipped to JLab. The other two will be re-rinsed and sent in another batch for testing. Second four cavities are in the test dewar awaiting available cryogenics at DESY.

Cavity 024 was reassembled this week for vertical test planned in dewar 7 when CTF is back up in April.

pCM Status

Beam pipes parts have been cleaned, pre-assembled and bagged in the cleanroom. Clean beam tube installation in progress. Couplers checked for connection from warm to cold parts; new PEEK pieces expected in two weeks. Expecting new JT stems for pCM from FNAL for test.

Modified u-tubes have been leak checked and pressure tested. First bayonet box welding is complete. Leak check and pressure test is on-going. Instrumentation and MLI installation into the bayonet box are planned for next week.

Production Status

Jlab and FNAL are working through kit lists for workstations to ensure identical parts used and to identify any shortfalls in components.

Design changes associated with microphonics have required some new parts. Parts for JT piping modifications are needed in several weeks prior to J1.3-2 at WS5. Parts for further piping modifications are needed now for J1.3-3 at WS2.

CM-04:

Awaiting two more qualified cavities from DESY testing.

VV006 - NCR has been generated regarding missing welds and dimensional discrepancies. Awaiting disposition.

CM-03 currently at WS1:

String final leak was completed and was rolled out on Monday 20 March to WS2 assembly rail #2.

VV004 - NCR has been generated regarding missing welds and rust. Awaiting disposition.

CM-02 currently at WS3:

Alignment of string to UCM is complete. FNAL personnel on site this week to guide installation of tuners on 1st production module. All tuners installed and set to frequency. MLI on capillary piping is complete. Instituting changes from FNAL to reduce microphonics - G10 bushings on JT line and nomex tie backs of invar rods are in progress.

**QUALITY**

Continue to review the new SLAC QA procedure on Equipment Transfer & Verification, along with other draft Equipment Hand-off documents from SLAC.

The draft Incident Report on the compressed CM3 string is being reviewed internally before submitting to SLAC.

Provided feedback on vendor welding documents for UCM 14 & 16. A team of JLab and Fermilab staff is currently at WXCX to address issues and to continue with QC oversight for the production of VVs and UCMs.

**Upcoming Travel:**

E. Zanon Vendor Oversight Mar 16-27 (A. Palczewski)

WXCX Visit Mar 19-24 (Cheng, Fischer, FNAL colleagues)

E. Zanon Vendor Oversight Mar 26-31 (C. Reece)

RI Vendor Oversight Mar 28-31 (A. Palczewski)

E. Zanon Vendor Oversight Apr 3-11 (K. Macha)

E. Zanon Vendor Oversight Apr 7-15 (H. Park)

Weekly Reporting

WBS 1.04.08 JLAB Cryoplant System

Week of March 17-23, 2017

**Issues:**

**Accomplishments this week:**

Prepared and presented the 2K cold box assembly design review on 9 March. The agenda, charge, and supportive materials was provided to three reviewers from three different laboratories. Final report pending. Continued work plan for completion of the design.

Preparation for delivery and storage of the compressor skids are underway at SLAC. A pre-shipment meeting took place along with anticipated delivery dates presented.

Assembly work continued on the fabrication of the CP1 Upper Cold Box assembly. The top head has been placed on a support stand. Multiple piping spools have been fabricated for installation between the top head and heat exchangers/vessels.

A BCR was presented to cover unexpected custom charges for 4.5K cold box heat exchangers and turbines on 23 February. The request was rejected by SLAC management until SLAC/DOE discussion was completed. There is a possible recovery of charges which are under investigation.

A cryoplant replan was developed for remaining work with presentation to SLAC management scheduled for today, March 16. A BCR documentation and presentation to the CCB is in the process of development.

**QUALITY**

Provided feedback on the 2K Cold Box FDR, including information on shipping.

Provided comments/lessons learned regarding the 12GeV Upgrade Project shipping.

Plans underway to support Warm Helium Compressor shipping from vendor.

**Upcoming Travel/Reviews:**

Shipping Safety Plan Review, 24 March

75% CP Installation Design Review, SLAC, March 28-29

Directors Review, SLAC, May 3-5th 2017

100% Installation Design Review, May 8, 2017

DOE Review, SLAC, June 13-15th 2017

FAC Review, SLAC, late summer 2017

Weekly Reporting

WBS 1.02.03.05.12 LLRF

Week of March 17-23, 2017

**Issues:** None

**Accomplishments this week at JLAB:**

* LLRF Coordination/Documentation:
  + Heater: The FPGA board is in CAD for layout.
  + Active Compensation: Participated in discussions with the LCLSII SRF community.
  + CMTF EPICS software was converted to the latest version with full features.
* Resonance/Stepper Motor Board/Chassis:
  + Testing software in the CMTF next couple weeks …ongoing.
  + Test bench design continues.
  + Making production modifications to the pc boards.
  + Resonance chassis being readied for shipping (to FNAL).
* Interlock Board/Chassis:
  + Test bench design continues to evolve.
  + Making production modifications to the pc boards.
* Common Power Supply/Chassis/Boards:
  + Gun PS Chassis/Board: This schematic was given to CAD and the layout has begun.
  + Power Distribution Investigation: Dave sent out an update of the results so far earlier in the week. We are putting together a package to retrofit the PS chassis with the improvements.
* CMTF
  + Preparing for the pCM re-test in April, this will include the HW needed for active compensation tests too.

**Upcoming Activities:**

* Prepare for SLAC controls review in April
* Prepare for Directors Review and FDR in May