Weekly Reporting

WBS 1.01.07 JLAB Management

Week of Feb 24-Mar 2, 2017

**Issues:**

**Accomplishments this week:**

Progressed P6 status

Collected accruals

Prepare and submit BCR and EACs

Held Cryomodule Production Readiness Review part 4

Helium Dewar Vendor proposals due 2 March 2017

Evaluating 5 proposals for Oil Processor

**Upcoming Activities:**

2k Cold Box FDR at JLAB March 9

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

FAC at SLAC Late Summer 2017

Weekly Reporting

WBS 1.04.6 JLAB Cryomodules

Week of Feb 24-Mar 2, 2017

**Issues:** Cost and schedule impacts due to cavity recipe development effort at vendors. Planning and execution of CTF down activities. Lack of parts in circulation returned to RI may limit future cavity delivery rates.

**Accomplishments this week:**

CTF down is in progress.

Presented BCR for Cavity Vendor Support for CCB on 23-Feb. This was approved.

Discussing path forward including schedule and priority for 32 cavities and additional niobium.

Restart of Zanon is in progress for fabrication work on material for 67 cavities. Zanon was approved to restart welding the first of these 67 cavities. JLab cavity fabrication expert is onsite and supervising procedure development and on-going work. Plans for recovery of balance of cavities (66) is under development.

PCCM was held this past week with a focus on restart and recovery proposals. As part of recovery investigations, Zanon cavities 202 and 240 have been re-processed (15 microns BCP, dual HPR) and are in final clean assembly. These will be shipped to FNAL for testing next week.

Two bare and two dressed RI cavities made from NX material were received at FNAL. Four more cavities have shipped from RI to FNAL.

Have returned some sets of parts in circulation from FNAL and JLab to RI. Preparing cost estimate for an additional 25% of PICs to continue cavity shipments uninterrupted.

A total of 9 RI cavities have arrived at DESY. Testing of the first four is planned to start Monday. The next four will be tested 7 to 10 days later. Qualified cavities are planned for use in CM04 at JLab.

Three untested cavities shipped from JLab inventory were received at FNAL. These cavities are planned for use in CM05 at FNAL.

pCM Status

Conducted first two shipping tests on-site (low speed) and onto highway (~120 miles) with good results. Starting third test which is a long-distance two-day trip in order to characterize shock environment over long distances. This test should complete on Friday.

Production Status

CM-04:

Awaiting qualified cavities from DESY testing. Expected third week in March.

CM-03 currently at WS1:

String assembly is complete including successful leak check. Roll-out projected by 3-MAR.

Upper cold mass UCM006 – Finished magnetic hygiene pass.

Vacuum vessel VV006 - Incoming QC is complete.

CM-02 currently at WS3:

Two-phase pipe welding is near completion. Added two-phase invar support rings. Magnet foil heat station, Gate valve supports, invar clamps and coupler heat stations have been added.

We are awaiting parts from FNAL - G-10 flux gate holders between HV mag shield layers.

Continuing inspections on beamline bellows and spools prior to shipment to plating vendor. Finished inspections on HOM and field probe feedthroughs.

**QUALITY**

Reviewed various Zanon manufacturing procedures (e.g. Nitrogen Doping, EP treatment, Forming-Shaping-Machining, Inspection-Grinding-Polishing, and Handling-Storage.)

A preview of the pCM coupler installation NCR was provided to SLAC. The responding comments from SLAC are being discussed at JLab. The coupler installation issue will be included in the monthly Significant NCR Dashboard.

**Upcoming Travel:**

E. Zanon Vendor Oversight Feb 15-Mar 8 (Macha)

E. Zanon Vendor Oversight March 11-25 (A. Palczewski)

Shipping Meeting at PHPK March 14-15 (M. Bevins, T. Peshehonoff)

E. Zanon Meeting March 17 (J. Galayda, J. Preble)

Vendor Visit to Wuxi March 20-24 (Cheng, Fischer)

DESY & RI Vendor Visit March 27-31 (A. Palczewski)

Weekly Reporting

WBS 1.04.08 JLAB Cryoplant System

Week of Feb 24-Mar 2, 2017

**Issues:**

**Accomplishments this week:**

Preparation was conducted for the 2K cold box assembly design review to be held at JLab on 9 March. This includes the agenda, charge, and supportive materials.

Fabrication of the CP1 warm helium compressor skids at PHPK continued to be on schedule with indications of substantial progress in both the HP and LP compressor skid assemblies. First shipments to SLAC is scheduled for April 2017. Preparation for delivery and storage of the compressor skids are underway at SLAC. A pre-shipment meeting is to take place at PHPK on March 14th. Mike Bevins and Dirk Pfluekhaln (SLAC) will attend the planning meeting.

Last major component (heat exchangers) for the recovery compressors was received at JLab

4.5K cold box shipping and field reassembly preliminary plan to be started 10 March by the vendor.

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. Waiting for SLAC response.

An EAC was developed for presentation for cryoplant engineering 1.4.8.5 and will be presented on 2 March to the CCB.

**QUALITY**

Reviewed and discussing the draft 2K Cold Box Specification with the JLab CryoPlant SOTR. Recommended additions and modifications were provided to the SOTR.

JLab QA/QC plans to participate in 2K cold box assembly FDR.

**Upcoming Travel/Reviews:**

2k Cold Box FDR, JLAB, March 9 in JLab CEBAF Center, L102

Warm Helium Compressor Shipping Plan Meeting, PHPK, March 14

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

Directors Review, SLAC, May 3-5th 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 Feb 24-Mar 2, 2017

**Issues:** None

**Accomplishments this week at JLAB:**

* LLRF Coordination/Documentation:
  + Heater: The FPGA board is still in CAD.
  + Participated in interlock meeting with SLAC, FNAL and JLAB to determine what interlocks we keep moving forward. Eliminating Arc and IR detectors from production.
  + Active Compensation: Participated in discussions and provided estimates both for LLRF and JLAB proposals.
* Resonance/Stepper Motor Board/Chassis:
  + Code-a-thon: People working on both firmware and EPICS software this week.
  + Design of the production test bench is in progress.
* Interlock Board/Chassis:
  + Discussions on the test bench has started. A block diagram is due next week.
* Common Power Supply/Chassis:
  + Gun PS Chassis/Board: This has been assigned to CAD and we should have the schematic next week.
  + Power Distribution: Investigating the connectors and modifying the PS back plane so that we can add two conductor cable. We should have results (voltage drop) next week.
* CMTF
  + Improving the CMTF LLRF for the next CM (CM2).

**Upcoming Activities**: Prepare for FDR in April.