Weekly Reporting

WBS 1.01.07 JLAB Management

Week of Feb 10-16, 2017

**Issues:**

**Accomplishments this week:**

Signed loan agreement for 2 HOM BLAs

Completed the PAR and technical report for the purifier.

Ambient Heat Exchanger was awarded.

Issued a new major NCR for the pCM FPC.

Working the EAC.

**Upcoming Activities:**

TESLA Technology Collaboration 21-24 Feb

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 10-16, 2017

**Issues:** Cost and schedule impacts due to cavity recipe development effort at vendors. Planning and execution of CTF down activities.

**Accomplishments this week:**

CTF down is on track to start 17-FEB. Procured components for two new top plates for dewar 5 that will enable testing three cavities in one cooldown.

Developed and reviewed EAC internally. Plan to pass along to SM for review by end of week.

Developed estimate for JLab’s portion of four additional CMs and passed along to SM for review and comment.

Request for quotation from potential cavity supplier that includes niobium materials is now expected by 21-Feb. Subcontractors quotations are arriving later than expected.

Developing strategy to restart Zanon. Zanon has been directed to stop fabrication work. They have developed written procedures for machining, grinding and handling activities that are currently under review by project experts. Zanon project manager will visit JLab next week to discuss contract status. JLab cavity fabrication expert will be onsite beginning 17-Feb to supervise work once restarted.

PCCM held meetings to continue developing path forward including rework of existing cavities.

Two bare and two dressed cavities made from NX material are in route from RI to FNAL.

A total of 9 RI cavities have arrived at DESY and are undergoing receipt inspection. First tests are scheduled for end of February with results expected during first week of March. Qualified cavities will be used in CM04.

Three untested cavities from JLab inventory are prepared for shipment to FNAL. These are expected to ship by 17-Feb.

pCM Status

M. Stirbet and B. Legg reviewed connecting rod replacement procedure and discussed lessons learned with A. Burrill and J. Tice.

Continuing with preparations for shipping test. Alignment group verified positions of gate valves, internal flanges and vacuum vessel fiducials. Vacuum work on upstream end is completed. Shipping frame is located on production floor.

Presented summary of tuner tests conducted on pCM including mechanical range and piezo range.

Production Status

CM-04:

Conducted four cavity tests since 7-Feb. Qualified three more cavities for string for a total of four cavities (022, 043, 044 and 046).

Cavity 046 qualified for string assembly on initial test. Admin limited at 24 MV/m, FE onset at 20.6 MV/m, tested in 5-8 mGauss field, Q0(16MV) = 4.0e10.

Cavity 044 qualified for string assembly on initial test. Admin limited at 24 MV/m, FE onset at 22.9MV/m, tested in 5-8 mGauss field, Q0(16MV) = 3.8e10.

Cavity 043 qualified for string assembly on initial test. Cable break down limited gradient to 21.5 MV/m, FE free, tested in 5-8 mGauss field, Q0(16MV) = 4.2e10.

Cavity 048 did not qualify and will be re-rinsed. Admin limited at 20 MV/m, initial FE onset at 10 MV/m, final FE onset 15.2 MV/m, 5-8 mGauss field, Q0(16MV) = 4.36e10.

CM-03:

Plan to start rinsing cavities for string 03 on Monday 20-Feb.

UCM004 Magnetic field survey completed. Demagnetized all GHRP hanger pads.

CM-02:

Installed MLI and magnetic shields onto helium vessels. Installed instrumentation on cold couplers. Installed and aligned magnet. Moved string to work station 3.

Upper cold mass UCM006 – Reworked the tee and are planning leak check this week. Next step is magnetic hygiene pass.

Vacuum vessel VV006 - Incoming QC is complete except for minor diameter and thread checks.

Continuing inspections on beamline bellows and spools prior to shipment to plating vendor.

SSA #2 was swapped with spare. The failure mode still not understood. The spare will be tested and commissioned in the next week. Plans for evaluation of failed SSA are being developed with SLAC colleagues.

**QUALITY**

SLAC LCLSII Project QA is implementing a new procedure to define the process of Equipment Transfer & Validation to SLAC. Mike Skonicki and Stefanie Smitherum (SLAC LCLSII Document Coordinator) plan to visit JLab in the near future to provide an information session about the new process. At the same time, Stefanie would like to learn about the workings of the JLab Pansophy traveler system from a documentation standpoint.

A Significant NCR for the warm coupler installation on the pCM will be submitted to SLAC.

**Upcoming Travel:**

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

Vendor Visit to CPI, Thales, RI February 16-25 (Stirbet)

TTC at MSU/FRIB Feb 20-24 (Wilson, Palczewski, Drury, Reece, Powers)

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

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

Weekly Reporting

WBS 1.04.08 JLAB Cryoplant System

Week of Feb 10-16, 2017

**Issues:**

**Accomplishments this week:**

Smithgroup was contacted to arrange an electrical/controls meeting at JLab on Thursday, Feb 23 followed by mechanical on Friday, Feb 24.

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.

Documentation was submitted to SLAC in support of the purifier PRR.

Upper 4.5K cold box shipping saddles and CP1 upper cold box head assembly continued throughout the week.

The MCC procurement specification was approved by SLAC BIO.

Work continued to complete the draft cryoplant EAC for Thursday, Feb 16.

**QUALITY**

Reviewing the Inspection & Test Plans (ITPs) for the 2K Cold Compressor submitted by Air Liquide.

Reviewed and approved the Technical Specification for Diesel Standby Power Generator System and UPS system.

PHPK presented their internal QA/QC plan during the ITP review at PHPK on January 31. The ITP was reviewed by JLab QA/QC during the past week.

SLAC Systems Integration requested a system-by-system breakdown of applicable CryoPlant design codes. Discussions are to continue. Design codes are listed within approved subsystem procurement specifications

**Upcoming Travel/Reviews:**

Smithgroup controls/electrical/mechanical coordination meeting, Feb 23/24, TBD

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

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 10-16, 2017

**Issues:** None

**Accomplishments this week at JLAB:** On travel.No report.