Weekly Reporting

WBS 1.01.07 JLAB Management

Week of June 28 to July 12, 2017

**Issues:**

**Accomplishments this week:**

Removed the pCM from the test cave and inserted CM02

Preparing presentations and conducting dry runs for the CP Installation FDR

Conducted Cryomodule and Cryoplant Status meetings

**Upcoming Activities:**

CP Installation Final Design Review July 13-14, 2017

SRF 2017 in China July 17-21, 2017

CP Controls Review August 30, 2017

FAC at SLAC September 2017

Weekly Reporting

WBS 1.04.6 JLAB Cryomodules

Week of June 28 to July 12, 2017

**Issues**: Expect delays in cavity shipments due to lack of availability of PICs.

**Accomplishments this week:**

Continuing to develop BCR schedule and cost for four additional (2+2) cryomodules.

Working with FNAL to implement microphonics mitigations including procurements to support production lines at both labs for tuners.

LERF CM testing proposal – the revised estimate is in a draft p6 what-if file. Plan to discuss with Project Director and CS SM later this week.

Developing plan to ship JLab pCM to FNAL for fast cooldown testing.

Investigating ways to increase cooldown rate in CMTF (plumbing, plant ops).

Cavity Status

Zanon – Another rework cavity (229) was qualified in vertical testing. Zanon has received a change request describing the successful recovery method. Zanon provided a list of the status of each of the rework cavities that will be reviewed and approved by JLab.

The last five RI cavities tested showed field emission. JLab notified RI who is taking steps to review their internal clean assembly steps.

Updated shipping status from both vendors was provided.

pCM Status

pCM has been removed from the test cave. End cans are being removed. Module is being prepared for shipment to FNAL.

Testing is complete. We developed suitable Qo measurement using dP/dt technique and verified Qo’s for pCM cavities. Low Qo values (average of 1.7e10) are likely due to slow cooldown and magnetic environment. Completed an Eight Cavity Run in SEL mode. Determined limits of CTF for 8-cavity operation. Verified gradient calibrations.

Production Status

CM-02 (currently at CMTF):

Aligned CM in cave. Installed waveguides and connected instrumentation. Plan to degauss before cooldown. Preparing for u-tube installation and cooldown on Thursday evening (7/13).

CM-03 (currently at WS5):

Leak checked two warm couplers. Welded reverse plumbing.

CM-04 (currently at WS3):

Alignment in progress. Magnet lead soldering complete.

CM-05 (currently at WS3)

De-gaussed bearing blocks in-situ. Continuing with tuner installation.

CM-06 (currently at WS2)

String assembly rolled out on 7-July. Installing Berry bolts and performing alignment check.

CM-07

Cavity qualification testing in progress with one cavity qualified for string.

Cavity 109 (NX) failed to qualify due to low Q(16)= 2.4 e10. Admin limited at 24 MV/m. Cavity will be set aside.

Cavity 229 (bare, Zanon rework) was initially tested on 5 July and met specifications - Qo(16)= 3.4 e10; Admin limited 24 MV/m, no FE.

Cavity 112 (NX-A) had a first test on 7 July and qualified - Q0(16) = 2.6e10, FE onset 18 MV/m, 24 MV/m admin limited.

Vertical test planning

Three cavities (090, 264, 244) are on test stands awaiting opportunity for testing. Cavity 090 is a verification test of a previous DESY result. Three cavities (260, 261, 268) are loaded onto D5 test stand and will be cooled when cryogenics are available.

**QUALITY**

Conducted a QA audit at RI on June 29 & 30 and Zanon on July 3 & 4. The visit went well. A trip report will soon follow.

Reviewing the updated information from SLAC on the new process for Equipment Transfer Verification.

Submitted the monthly SNCR dashboard to SLAC.

**Upcoming Travel:**

E. Zanon Vendor Oversight July 17-21 (K. Wilson)

SRF 2017 Lanzhou, China July 17-22 (A. Palczewski, C. Reece, N. Huque, L. Zhao, V. Bookwalter, G. Cheng)

WXCX Vendor Visit July 24-28 (Cheng, Fischer)

E. Zanon Vendor Oversight August 2017 (H. Park)

Weekly Reporting

WBS 1.04.08 JLAB Cryoplant System

Week of June 28 to July 12, 2017

**Issues:**

**Accomplishments this week:**

CP1 lower cold box shell is ready split pending internal structural frame fabrication completion next week. CP1 upper cold box LN2 heat exchanger is being mounted onto the internal frame. 80K absorber vessels are in the process of pressure testing and MLI wrapping for installation into the upper cold box.

Work continued to complete the drawings to be delivered to Smith Group for completion of the cryoplant mechanical piping and electrical/instrumentation installation design.

Received updated calculations for the oil removal vessels. Calculations were correct and vendor received authorization to proceed with remaining material which includes the mounting saddles.

CP2 warm helium compressor assemblies are nearing completion. First compressor shipment is schedule ~July 24th with a compressor skid shipped every 3 three weeks after.

Meeting continued with the cold box vendor and subcontractor to pull back the schedule slip of the 4.5K cold box.

**QUALITY**

LCLSII CryoPlant Installation FDR scheduled at JLab on July 13 & 14.

**Upcoming Travel/Reviews:**

CP Installation Package FDR July 13-14

Vendor Visit to Air Liquide Sassenage, France July 17-21 (D. Arenius & T. Peshehonoff) to witness cold compressor housing pressure testing and 4.5K cold box turbine run tests.

CP Controls Specification Review August 30, 2017

Weekly Reporting

WBS 1.02.03.05.12 LLRF

Week of June 28 to July 12, 2017

**Issues:** None

**Accomplishments this week at JLab:** On vacation, no report.

Upcoming Travel/Reviews:

* LLRF FDR July 27
* LLRF Production Costs: Draft due to JLAB leadership by the end of July.