Weekly Reporting

WBS 1.01.07 JLAB Management

Week of June 27-Jul 3, 2018

**Issues:**

Need to finalize shipping plans and hardware so we can ship CMs.

**Accomplishments this week:**

Hosted SLAC personnel and for integrated testing of PLC and EPICS software.

CMTF resonance control with piezos and stepper motors was implemented.

Disassembled LERF HPRF distribution system on 3 channels to inspect SLAC isolators per SLAC request.

**Upcoming Activities:**

July – LCLS-II HE ICR Review

Weekly Reporting

WBS 1.04.06 JLAB Cryomodules

Week of June 27-Jul 3, 2018

**Issues**:

Risk of lack of high-performing cavities to finish CM assembly. Possible delay of first shipment from JLab due to availability of modified shipping caps.

**Accomplishments this week:**

Presented bundled cavity BCR that included giveback for cancelling 32 new cavities and instead reworking 27 cavities at RI.

Preparing procedures for shipping of CMs together with FNAL. Developing instrumentation plan together with FNAL.

Zanon shipped 8 reworked cavities to FNAL and 4 reworked cavities to JLab. Recall that these cavities are part of the batch of 25 that had poor processes early in production.

FNAL delayed in shipping remainder of rework cavities to RI. Some cavities arrived with hardware installed. All hardware was supposed to be removed and returned to vendors months ago.

J1.3-01, J1.3-03, J1.3-04 and J1.3-07 - @ Storage; Idle; Waiting to move to WS4 for VV removal

J1.3-02 – @ Stored; no further work planned.

J1.3-05 - @ LERF; Used for fit up of stands.

J1.3-08 - @ CMTF; Average Q0 for CM is 2.7e10. Total voltage is 124 MV. Eight cavity running in GDR completed – total gradient > 100 MV for the CM. SSA5 is faulting – EES troubleshooting. Re-processed some cavities – raised cavity 1 from 18 MV/m to admin limit. Other cavities did not improve. Overall performance indicates that hardware change-out was done successfully. Testing extended until end of this week. Pre-warm up review planned for Thursday.

J1.3-09 @ WS5 – Leak from insulating vacuum space to primary helium circuit. NCR #1466 initiated. Localized near the front of cavity 3. Module will move back to WS4 to identify leak. Expect delay of move of J09 to LERF.

J1.3-10 @ WS5 – Faraday cup installed. Warm couplers installation in progress. Line A pressure test complete.

J1.3-11 @ WS3 – Alignment is complete. Tuner installation in progress.

J1.3-12 @ WS3 – Magnet lead soldering in progress. Two-phase leak check complete.

J1.3-13 @ WS2 – Rolled out of clean room 6/21. Berry bolts complete. Align/Magnet installation in progress.

J1.3-14 – All cavities qualified. String prep began 2 July. String build begins 8 July. String rollout by 20 July.

J1.3-15 - 7 of 8 cavities qualified for the string.

Cavity Test Results

Cavity 059 retest (from string 6) in D5 Fri 29 June, Q0(16) ~ 3.5E10, First Quench at 23.5 MV/m, could not push past 21.5 afterwards, No FE, Qualified for string.

Cavity 053 retest (from string 6) in D5 Fri 29 June, FE onset at 9.5 MV/m, Admin limit at 16.5 MV/m, radiation at 1 R/hr. Plan to re-rinse and re-test.

Cavity 060 retest (from string 6) in D5 Fri 29 June, Q0(16) ~ 3E10, Quench at 18.5 MV/m with a FE spike at each quench, max FE 20 mR/hr, Q0(16) dropped to 2.5E10 after quenches. Not qualified for string. Plan to set aside.

Planned tests – Planning one test with three cavities in D5 and one test in D7 or D8 with one cavity.

**QUALITY**: On vacation. No update.

**Upcoming Travel/Meetings:**

EZ Vendor Visit July 9-13 (H. Park)

EZ Vendor Visit late August (D. Gonnella)

EZ/RI Vendor Visit TBD (K. Wilson, M. Laney, A. Palczewski)

LINAC 2018 Sep 14-19 (A. Solopova)

Weekly Reporting

WBS 1.04.06 Cryomodules - LERF Conversion

Week of June 27-Jul 3, 2018

**Issues:** None

**Accomplishments this week:** Nothing new to report – please see LLRF report.

Weekly Reporting

WBS 1.04.08 JLAB Cryoplant System

Week of June 27-Jul 3, 2018

**Issues:**

**Accomplishments this week:** No report due to vacation.

Weekly Reporting

WBS 1.02.03.05.12 LLRF

Week of June 27-Jul 3, 2018

**Issues:** None

**Accomplishments this week at JLab:**

* Resonance/Interlock Chassis:
  + Chassis are installed in LERF Racks.
  + Rama is working on the code for the 1.5 board. Once this is done it will be ready for EPICS.

* LERF
  + LERF LLRF instrumentation cables: RF cables are being installed slowly due to competing priorities.
  + HOM Measurement: No change from last week.
  + SSAs: We are inspecting three of the waveguide isolators for quality control issues.
  + We are working JLAB high-level apps to automate cavity tests using an EPICS interface. Mike Drury has generated pseudo code for a gradient ramp and a Q0 measurement which has been released to controls.
  + LERF RR: We are working with many people/departments to bring this together. Arne has written a draft charge which is out for review.
* CMTF
  + Rama fixed the resonance control firmware. You now can run both steppers and piezos together. This will make GDR much easier to run.
* Interlock Board/Chassis:
  + Work at this time is on hold until needed for 3.9 GHz.

**Upcoming Activities:**

* LERF Readiness Review week of August 13