**LCLS-II MAY PROJECT STATUS REPORT**

**DATE:** June 2, 2015

**LOCATION OF PROJECT:** Jefferson Lab

**SENIOR TEAM LEAD:** Joe Preble for George Neil

**MONTHLY PROGRESS**

Summary

Many people were involved with preparation for and attended IPAC held in Richmond, VA, May 3-8, 2015.

Participation in the Cryomodule (CM) final design review at FermiLab from May 12 -14, 2015, with several talks given locally and remotely.

Management

JLab funding request for the second half of the fiscal year was approved and entered in DOEPAC. This contract mod for $10,706,259.00 was received May 28, 2015.

We updated our May progress submission for the month. Worked on the JLab Cryomodule schedule to schedule non-critical activities so they do not unnecessarily create variances.

Variance reports were submitted.

Received feedback from DOE ORNL review of the cavity PAR. Discussion and responses have been given.

Held discussions with CDS, CM, and CP on integrated planning. Action items developed for various analysis, information, and decisions.

Procurements status:

1. Cavity procurement went through the DOE review process and was awarded.
2. 4.5 Cold Box Technical evaluation was completed.
3. Warm Helium Compressor Bid Package was released and technical evaluation was completed.
4. Gate Valves for Prototype with options for Production – approved.

ESH - QA

Prepared JLab SRF QA slides that were included in the FermiLab QA presentation at the cryomodule FDR.

FermiLab’s draft QA presentation for the FDR was reviewed at the JLab/FermiLab periodic QA teleconference.

Remote participation in the CM final design review at FermiLab from May 12 to May 14.

Worked with JLab inventory control staff on the serialization of the inter-connecting bellows.

Cryomodules

Modifications to HTB to improve insulating vacuum and add capability for LCLS-II style fast cooldown are underway. AES035 was removed from the HTB piping assembly.

Inner magnetic shield was removed and shipped to Cornell in support of HTC testing of AES031. Two modified C100 HOM feedthroughs were also shipped.

Work continued on baseline qualification of two of four cavities for VQ cavities required - AES021, AES025. The other two cavities at FNAL were identified: AES015 and AES017.

Electrical conduit and wiring was completed in support of SSA installation. Water utility work continued.

We began work on the CMTF HX detailed design. CMTF End Can hardware and u-tube orders were placed.

Prototype HOM and FP feedthroughs were received at JLab. In collaboration with FNAL, we are finalizing receipt/inspection activities for these feedthroughs. The components are needed for prototype cavity horizontal testing.

Clean room re-configuration for prototype cavity string is on track for completion by mid-June. Soft walls are 95% complete. Remaining activity is to install curtains adjacent to load lock.

We participated in SC Magnet Power Supply and Quench Protection PDR via videoconference on 19-May.

Preparations underway for cryomodule shipping and handling meeting scheduled for June 2-3, 2015, at JLab. Topics will include shipping fixture design, shipping test plans, and handling of cryomodules at partner labs and SLAC.

Cryoplant

Attended kick off meeting of the warm compressor technical evaluation committee. Warm helium compressor bid technical evaluations continued. Questions requiring offer clarification were released to the vendors. Initial technical evaluation scores were completed and are being compiled by the SOTR.

Hosted the new cryogenic consultant. Conducted an extensive tour of the JLab facility and discussion on operational considerations.

4.5K cold box best and final bid offers were received. Clarification questions concerning the final offers were received and were being evaluated. Another round of vendor proposal clarification questions was evaluated. A teleconference with the vendors to settle remaining questions has been scheduled for June 2, 2015.

Two coordination meetings were held to discuss the impact of two full sized cryogenic plants on the distribution system and cryomodules operating modes as well as the interface to the cryoplant.

Two JLab coordination meetings were held to plan additional manpower to support planned BCRs and CP2.

A draft CP2 P6 was generated and submitted to SLAC for comment and review.

Cryo-distribution

No effort at Jefferson Lab.

LLRF

Met with CMTF staff to discuss prototype cryomodule interlocks.

The complete FPGA requirements document was out to team for review and is close to being ready for the SLAC engineering team.

The LLRF FRS was sent to Theresa Wong for signatures. Edits were received and document was updated.

The ICD is out for signatures.

Started on defining the scope and responsibility for the cryomodule heater control.

LLRF team participated in defining the final waveguide couple specifications.

Started work on the interlocks engineering specification document (ESD).