Weekly Reporting

WBS 1.01.07 JLAB Management

Week of February 19-25, 2016

**Issues:**

Need Nb/NbTi material to be delivered to the cavity vendors. Some Nb sheet material has been delivered and we need to make sure the remainder goes in a timely fashion.

**Accomplishments this week:**

Meetings with JLab freight forwarder Team World Wide to develop strategy for ensuring the remaining cavity procurement activities avoid delays due to customs or other logistical issues.

Submitted variance reports.

Presented the results of the recent analysis and associated plan to project management for an optimized cold compressor and 2K cold box design and procurement process.

Preparation of BCR and EAC files.

**Upcoming Activities:**

Weekly Reporting

WBS 1.04.6 JLAB Cryomodules

Week of February 19-25, 2016

**Issues:** JLab pCM schedule is driven by the availability of parts including magnetic shielding, tuners and GHRP assembly. Need to ship cavity materials to one vendor. Project schedule driven by production cavity delivery schedule – need to recover float.

**Accomplishments this week:**

The following list of BCRs have been discussed with the SM and are in preparation: Cavity Tuning Machine (CTM, planned for CCB 2/25) Cost, Production Tuner Schedule (planned for CCB 3/4). JLab has provided input and review of Cancellation Coils (presented at CCB, 2/18).

BCR forms for Cavity Parts in Circulation Cost (approved at CCB 1/28) and Offsite Storage Cost (approved at CCB 1/28) have been signed.

EAC for infrastructure was presented at CCB on 2/18. Further info is required from the project before re-presenting.

Conducted internal meeting with SOTRs, production leads, QA/Pansophy team and procurement staff – identified potential areas for improving collaboration’s communication and effectiveness.

Actively working cavity production schedule issues in order to recover schedule float by accelerating vendor delivery rates. What-if schedule was developed and reviewed. Current vendor feedback is not consistent with accelerating schedule – discussions are on-going with both cavity vendors. The best understanding is currently reflected in the forecast P6 schedule.

Cavity Procurement

RI has first article production is underway.

Enough Nb sheet material is at Zanon for first articles and some production cavities. Nb tubes and Ti materials shipped from FNAL are on hold at DESY due to customs questions. NbTi materials shipped from JLab to Zanon have been redirected from Milan Airport and have arrived at DESY. Delivery of NbTi materials needed for first articles is unknown at this time.

ZANON plans to provide the revised drawing package by next week for JLab and FNAL acceptance.   
  
RI is developing manufacturing drawings for the helium vessel and components in collaboration with their subcontractor. They have provided critical drawings that concentrate on the weld joint design. FNAL as design lead needs to provide feedback on these design issues.

Cavity string assembly: Completed qualification of copper plated parts, and began exterior cleaning and venting cavities using slow bleed-up system.

Evaluation of cold end FPCs is complete, ensuring that component cleanliness and internal surfaces are acceptable. Several couplers are being re-cleaned and baked.

GHRP parts received from FNAL. Reviewed detailed list of necessary modifications per Rev D of GHRP drawing released 9-FEB. Completed GHRP lower gusset welds.

Completed Orbital Welder training Feb 16/17 – four welders qualified to use machine, and process for ¼” and 4” pipe sizes qualified.

Pressure testing of GHRP end caps is on-going. Once complete, a set will be sent to FNAL to support testing.

CMTF lead technician and CM assembly instrumentation technicians traveled to FNAL Monday through Wednesday to review FNAL cavity string activities and observe CMTF progress and activities.

K. Wilson and T. Peshehonoff are planning to visit production bellows vendor next week. SLAC and FNAL staff have been invited – some will attend.

Initial planning has started for vendor visit to production VV manufacturer – tentatively late April.

CMTF coax waveguide sections are being cut to length, and installation in mezzanine is ongoing.

**QUALITY**

* Internal discussions continue on the topics of component serialization, material traceability, and responses to Significant (Major) NCRs. These topics will be included in the next Fermilab/JLab QA Coordination meeting.

**Upcoming Activities:**

* Vendor Visit to Bellows Manufacturer in California March 1 2016
* Vendor Visit to China April 24-29, 2016

Weekly Reporting

WBS 1.04.08 JLAB Cryoplant System

Week of February 19-25, 2016

**Issues:** Need2K Cold Box Design Manpower.

**Accomplishments this week:**

The weekly design coordination meeting was held with the 4.5K cold box vendor (Air Liquide). All action items are being properly addressed in preparation of a preliminary design review for 9-10 March 2016. Engineering topics this past week included a discussion continuation with the vendor for the heat exchanger design calculations and required documentation submittals in preparation of the PDR to be held at JLab. A plan to witness a performance test of the turbine brake system is also being schedule for 17 March, shortly after the PDR.

A presentation of the 2K cold box assembly plan follow up was presented for the cryogenic cryoplant meeting. Additional JLab meetings were held to investigate joint FRIB 2K cold box design as a means of combining a common design between FRIB and LCLSII.

Hongyu Bai is scheduled to join the cryoplant design team at JLab on March 1, 2016.

Specifications for the warm helium oil removal vessels, gaseous helium storage vessels, and final charcoal vessel are being circulated for approval.

Design work continued for the compressor room warm helium gas piping installation design. Design completion remains set for March 2016.

**QUALITY**

* Several draft CryoPlant specifications are out for review and comments. The carbon bed final filter and the oil removal vessels specifications have been approved by QA. A question related to Suspect Counterfeit Items was replied to the SOTR for the charcoal bed vessel specification.

**Upcoming Activities:**

Warm Helium Compressor CDR, Date TBD

4.5K Cold Box PDR, 9-10 March 2016

4.5K Cold Box Turbine Brake Operations Demonstration, Post PDR, 17 March 2016

Weekly Reporting

WBS 1.02.03.05.12 LLRF

Week of February 19-25, 2016

**Issues:** None

**Accomplishments this week:**

* LLRF Coordination/Documentation:
  + Working on PDR presentations (Curt and Rama).
  + Dave and Andre discussed chassis design. Dave is buying a blank proto-case to help with the JLAB design.
* Resonance/Stepper Motor Board:
  + Phyrotron stepper motor has been tested with driver board.
  + Chassis design is a work in progress.
* Interlock Board/Chassis:
  + FEM: Schematic started this week.
* Common Power Supply: Chassis is with designer.
* CMTF
  + Waveguide and Coax: Coax installation is picking up again. There was some confusion over the assembly instructions.
  + Cable Tray: Arrived yesterday. Plan is to have installed in the next two weeks.
  + Documentation: System block diagram is being updated weekly.
  + LLRF: Chassis assemble (RF & digital boards) is in process. First chassis should be done early next week.
  + SSAs: Modbus software has been installed and we are talking to SSA.

**Upcoming Activities:**

* JLAB:
  + Continue prototype tests and assembly (resonance, interlocks, power supply)
  + Team Meeting at LBNL next week.
  + PDR early March at SLAC
  + CMTF: Continue working on documentation, installation and instrumentation.