

CRP consortium meeting: 5/05/2021

- General news:
- Anode PCB adapter boards status
- CRP composite frame status for first CRP colbox

General News:

WBS and CDR

- ❑ Activities on **WBS** and costs estimates still ongoing, (needed to consolidate the project on the US side):
 - ❑ First draft exists
 - ❑ To be completed by **mid- May 2021**.

- ❑ Editing activities of **the CDR** evolving from proposal document:
 - ❑ Should describe the baseline and alternatives with a version **to submit to LBNC by July**
 - ❑ Editorial team A. Heavey, S. Palestini, M. Marshak

https://wiki.dunescience.org/wiki/DUNE_FD_Vertical_Drift_Proposal-Report

- ❑ Should start to write the CRP chapter since the April reviews have been done

DUNE collaboration meeting: May 17-21, 2021

2 parallel session slots reserved for the CRP consortium: Wednesday May 19th (8am-9:30am and 10am-11:30 CT)

Contributions to define: send your proposal to us

- Report drafted by the committee and available on edms (27/04/21):
 - <https://edms.cern.ch/document/2565930/1>
- Several recommendations are given for all the following aspects:
 - Anodes
 - Mechanical Support Design
 - CRP factories
 - Electronic interfaces
 - Prototyping plans

Excerpts:

3 Anode Design

Comments:

- The committee supports the plan for the reference design to be what is going into the coldbox in fall 2021 and that further optimization will continue until CD-2.
- The team should document potential problems in the production of large PCBs by vendors.
- Should there be a requirement on acceptable warpage when 6 PCBs are glued together? What tooling is required?

Recommendations:

- Study the optimization of strip widths and consider the case of proton decay.
- R&D should be undertaken to establish the most reliable interconnection plan considering ease of assembly and the ease of validation with the QC plan. The vertical connections require many pins and a complex assembly process. A realistic prototyping should be done to check this solution.

4 Mechanical Support Design

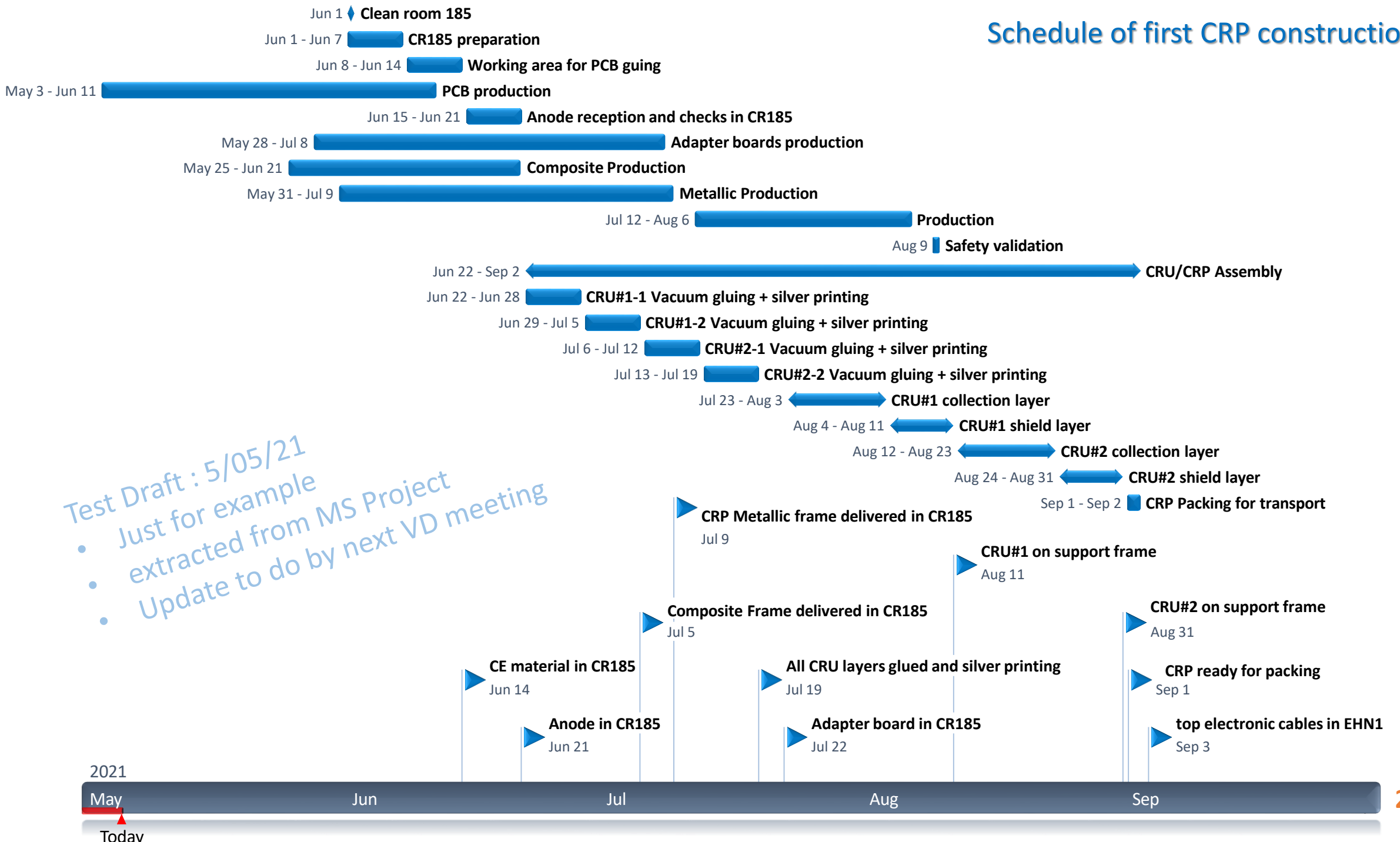
Comments:

- All materials should be validated in the MTS for compatibility with LAr.
- Consider a design to allow for more variation at warm as long as it meets specs in LAr.
- The team presented very detailed and good CRP assembly steps. Is there possibility to simplify these steps?

Recommendations:

- Further investigate the mechanical support with an eye to optimize transparency and impact on overall planarity. Support structures should be easy to disassemble and reassemble for transport.
- Consider mechanical support for the half-size CRP option.
- All materials should be validated in the Material Test Stand for compatibility with LAr.
- Consider a design that allows for more variation at warm as long as it meets specs in LAr.
- More details are needed describing the principles of the mechanical support of structure to anode. Please document the risks of damage to anode during assembly or transport?
- Provide initial plans and sketches of the CRP transport box.

Schedule of first CRP construction



Test Draft : 5/05/21

- Just for example
- extracted from MS Project
- Update to do by next VD meeting