GlueX-doc-1xxx

09-August-2010

C. A. Meyer

**CDC Construction Status:**

Phase one of the CDC construction results in the chamber frame and inner shell assembled and mounted on the construction mandrill. This task about 65% done, with all parts accepted and ready to be assembled as soon as final glue checks are completed.

The following table lists the parts that are needed during the first two phases of construction of the CDC. Original estimates for delivery of parts (inner shell, straws and plastic donuts/feedthrus) were early be several weeks.

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| Part | Date at CMU | Status | Ready to Use |
| Al. Donuts | 1-Apr-2010 | Checked and cleaned | 6/20/10 |
| Al. Feedthrus | 1-Apr-2010 | Checked and cleaned | 6/20/10 |
| Plastic Donuts | September? | Check and clean | ? |
| Plastic Feedthrus | September? | Check and clean | ? |
| Pin holders | September? | Check and clean | ? |
| Crimp pins | 7-June-2010 | Checked and in clean storage. | 6/15/10 |
| Al. Endplate | 1-May-2010 | Reamed, cleaned and ready. | 7/10/10 |
| Cfib. Endplate | 1-May-2010 | Reamed, cleaned and ready. | 6/22/10 |
| Support Rods | 1-May-2010 | Ready | 6/22/20 |
| Straws | August? |  | ? |
| Straws | 29-July-2010 | 250 Sample Checked & Accepted | (250) now |
| Inner Shell (good)  Inner Shell (test) | 15-July-2010  20-July-2010 | Cleaned, finished end  Glue tests underway | 7/15/10 |
| Stringing Mandrill | Made at CMU | Finished, cleaned | 7/10/10 |
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As of 9 August, all parts needed to assemble the chamber frame on the installation mandrill are at CMU, and are cleaned, checked and in the clean room. Tapped inserts have been inserted into the endplates and precision bolts obtained to hold the rods in place.

There is one critical step in the frame assembly that has to do with the final glue joint of the inner shell to the down-stream endplate after the plates have been aligned. This involves injecting glue between the shell and the support ring that is glued to the endplate. This operation is carried out with no access to the inside of the shell. Currently, this step is being practiced with a number of different sample pieces made from the test shell to determine the best way to inject the glue. This step could only be tested with the final components. Once the above gluing tests are completed, the frame will be assembled and aligned in the clean room.

The second test sample of 250 straws from Lamina arrived on 29 July. These have all been checked using the established procedures. Of the 250, 217 (87%) passed all tests and 9 additional tubes are probably acceptable. The 21 tubes (8%) that failed fell into the following categories: 2 were bowed, 1 was oval, 1 had a wrapping gap that was too large, 1 was very dirty inside and 16 had large blemishes visible on the outside of the tube (glue balls). The tubes were accepted and the go-ahead has been given to Lamina to produce the remaining straws.

As of 9 August, we are awaiting the following parts to allow us to assemble and insert tubes in the assembled shell.

1. 4000 additional straw tubes (250 are at CMU)
2. Plastic donuts (4000 pieces)
3. Plastic feedthrus (4000 pieces)

The plastic parts will need to be checked and cleaned before assembly can start. Our plan is to take about 1 week to get a jump on the cleaning and then do the remainder in parallel with the start of assembly.

CMU supplied manpower on the project:

Project Scientist: Naomi Jarvis

Yves Van Haarlem (finished on 20 August)

Curtis Meyer

Construction Manager: Gary Wilkin

Manpower billed to the project:

Technician: Amy Woodwell (since June 1)

Kaitlin (starts on 15 August).

Undergraduate Students: Tom Charley (100%) (finishes on 5 August).

Devin McGuire (60%) (June 1 to June 30)