November 3, 2004 barrel electronics video-conference minutes.

Agenda items

1) status of designs
2) update from coordination meeting schedule for FE board production/testing
3) update from SR
4) update from type 1 board testing at PENN

Status of designs

AR2F: order was put in on Thursday (Oct 28th) for 40 panels. Expected to be done in 20 days. Now working on putting together schematic, bill of materials, stuffing kit, and getting a quote for pre-series stuffing.

AR3B: the bid package is done. There has been no response yet from ACAMAS on the pre-series stuffing. Mitch is doing a last check on a few positions that showed abnormalities in Mike's threshold scans from the test beam (from last week).

AR3F: redesign received back from Bjorn yesterday. He indicated that he had not finished all of the corrections requested in the previous set and was just sending along his progress. Nandor noted that there will need to be at least one more iteration before the design is done.

FE board production schedule

Rick has updated the schedule that was presented at the TRT coordination meeting a few weeks ago in order to reflect the past few weeks' events. The file can be found on the same page as these minutes. The upshot is that the end-points for all the boards have moved off by one week since the coordination meeting. The dates for completion of testing and repair for each board type (36 each) are below:

AR2B: early January (production done Nov 23).
AR3B: late January (production done early January).
AR2F: March 7 (production done end of January).
AR3F: March 25 (production done early February).

This was followed by a discussion of options for testing and (possibly expanded) burn-in. The above schedule assumes that burn in for type 3 boards is done at the maximum possible rate (96 "boards" at a time- where in this case that really means half a board, since the type 3 boards have 2 power circuits each) but NBI currently only has the capability to burn in 48 barrel boards at a time. Brig says that we want to make more power cables, enough to burn in 96 barrel boards at a time, and that Godwin has molex pins for this (currently the limiting factor). John wonders if we couldn't expand this further by adding more power supplies, but Ole points out that the voltage and current monitoring circuitry which NBI has built up for burn in, is the real constraint. The total burn-in needs for endcap and barrel were calculated on the fly to be as follows:

7 weeks of burn-in at 96 boards per week for all of the first end cap.
9 weeks of burn-in at 48 boards per week for types 2 and 3 of the barrel.

All of type 3 could be burned in in 3 weeks (again 1 week cycles) if we could do 96 "boards" per week.

Ole mentions that the endcap schedule is not forseen to be ruled by burn-in and could thus be flexible in this regard.

The final decision was that we should give ourselves the maximum possible flexibility and that we would do this by adding 48 more barrel cables to NBI.

Action: need to decide whether PENN or NBI will build the cables.

A short discussion of barrel board testing options also occurred.

Mogens noted that he had tried to contact Lund about getting manpower to NBI to do barrel board testing. There has been "no movement" so far. Brig made a suggestion. Since we don't want to overload NBI or Ben (at CERN), and since it takes time to set up a new board test station, and also to ready existing stations for new board types, the logical choice is to get more manpower at CERN for barrel board testing. There are a few options for this:

1) get Bjorn to come to CERN to work with Alex on board testing in spurts as the boards arrive
2) send mike reilly (from PENN) to CERN for ~10 day spurts to help Alex do board testing (again, as the boards arrive)
3) get Sergei (currently working in 154) to come work on board testing, among other things. He will be available starting in the end of November.

No decision was made among these options in the meeting.

<u>SR Update</u>

The kinks have been largely worked out of the board installation process and Ben and Alex have started moving ahead. In the past 2 days, 6 modules' worth of electronics (12 boards) have been installed, bringing the total number of modules with electronics installed up to 11. There have been a few unexpected problems encountered, the largest of which was a module that had two (non-neighboring) wires shorted to each other. Otherwise, things are going smoothly. At the current rate, all the type 1 boards that are in stock at CERN will be installed within a week (10 more modules worth).

<u>Update on board re-work at PENN</u>

There has not been much progress on this front as Mitch has been spending a lot of time trying to get the other designs out the door. 15 boards were shipped to NBI on Oct 18, and there are approximately 20 more left to be fixed at PENN.

<u>Miscellaneous items</u>

Rick asks if, given the lower than expected success rate with type 1 and the type 2 pre-series, should we be thinking about assembling more than 36 of each board type for types 2 and 3? Will there be enough ASDBLRs? On a similar note we also need to decide how many more DTMROCs to package.