

Minutes and Actions of Site Qualification Task Force (SQTF)

Phone Conference – 27th of April 2006

Present: A. Andrezza, J.C. Clemens, M. Cristinziani, G. Darbo, K. Einsweiler, C. Gemme, M. Garcia Sciveres, D. Giugni, C. Glitza, V. Kostyukhin, G. Lenzen, C. Meroni, A. Rozanov.

Agenda

1. Bare staves: repaired (Genova) and new (IVW)
2. Status of stave loading (GE/CPPM/WUP)
3. Availability of modules for loading (L1/L2/BL) and distribution to loading sites
4. Pipe insertion and MCC repair
5. Loaded stave ranking and readiness for integration
6. Bi-stave activities and plans for next week
7. Effect of the loading on stave on module quality for AMS/IZM modules

1. Bare staves: repaired (Genova) and new (IVW).

Repaired staves. Activity stopped due to missing pipes. 3 additional staves, already with parylene on, received from CPPM, have been delaminated (S4023, S4045, S4089). Two other old-pipe staves that were not machined yet (larger width and thickness), have been machined, but need to be delaminated. The total number of TMT/Omega usable for repair is 30.

Last group of 5 staves sent to Comelec for parylene coating are ready at CERN for distribution to sites. One will go to Genova (S4141), two to CPPM (S4144, S4146) and two to Wuppertal (S4143, S4147). With this last delivery the total number of repaired staves, qualified for loading, is 37; of them 14 went to Genova, 16 to CPPM and 7 to Wuppertal.

The new batch of pipes will be back from Comelec next Wednesday (3/5), they will be measured the day after (4/5) at CERN and they will be cleaned starting from Monday of the following week (8/5). They will then probably ship to Genova (18) and to IVW (11) the 11/5. Genova will probably reassemble staves starting from 15/5 and 3 of them will be available a week later for loading (having already parylene), while all the others need to go to Comelec first. We have to consider of the order of 4 weeks before supply of bare staves for loading will be at regime.

The updated status of the repaired bare stave is in the table:

<http://www.ge.infn.it/ATLAS/SQTF/StaveRepair/Production/RepairSummary.xls>

New staves. A batch of 8 staves (6 production plus 2 preproduction) are also back from Comelec. They have to be surveyed at CERN before distribution. Precise schedule was

not available at the time of the phone conference. Danilo will contact the metrology department tomorrow (28/4). Giovanni proposed to do the survey in Genova, as it is done for the repaired staves. Because the staves have to pass Joule test in Genova this would help to gain a few days or a week. Later (28/5), Danilo decided to ship 3 of these staves to Genova where they will be surveyed and will go through the Joule test. Other 5 new staves are ready at IVW.

2. Status of stave loading (GE/CPPM/WUP)

Genova:

13 staves with new pipe loaded: 1 to be surveyed and tested (GE_30/S4081), 1 under test (GE_29/S4122) and 1 ready for shipment to CERN (GE_28/S4119). GE_28/S4119 will be shipped to CERN the 2/5. One more bare staves will be available next week for loading (GE_31/S4141). A total of 13 staves have been loaded from the 9/1/2006 when the first repaired bare stave started to be loaded.

Marseille:

14 staves with new pipe loaded: 1 to be surveyed and tested (MA_27/S4138). MA_26/S4142 and MA_27/S4138 will be shipped to CERN the 8/5. Two more bare staves will be available next week for loading (MA_28/S4144 and MA_29/S4146). A total of 14 staves have been loaded from the 2/1/2006 when the first repaired bare stave was started loading.

Wuppertal:

5 staves with new pipe loaded: 1 to complete loading (WU19/S4115) and 1 to be tested (WU_20/4143 and WU_19/S4147). A total of 5 staves have been loaded from the 1/3/2006 when the first repaired bare stave started to be loaded.

Status of loaded staves is in the table at:

<http://www.ge.infn.it/ATLAS/SQTF/StaveProduction/SummaryAll.xls>

3. Availability of modules for loading (L1/L2/BL) and distribution to loading sites.

Genova:

There are 53 modules for L1/L2 available in Genova. Some other 10 modules from Siegen must still arrive at Genova. The modules available are enough for 4 staves.

Marseille:

There are L1/L2 modules for 3 staves.

Wuppertal:

Precise number not given, but enough for the near future.

Moreover there are about 160 modules still not ranked and 440 of B-layer quality.

4. Pipe insertion and MCC Repair

Danilo said that there are 4 staves with pipe inserted to be sent to Bonn. One of them has a FE chip with a corner chopped on module M6A. (Electrical test done after the meeting showed that the chip is not working and it will be decided to send it to CPPM for module replacing). Markus said that he has finished testing of all staves with inserted pipe in Bonn. Usually the penalties of the modules increase due to the mechanical operation. It

was decided to go ahead with the stave insertion procedure. There are still a few staves that need MCC repair.

Status of pipe inserted staves is at:

<http://pi.physik.uni-bonn.de/~cristinz/Atlas/Pixel/InsertedStaves.xls>

Status of MCC repaired staves is at:

<http://pi.physik.uni-bonn.de/~cristinz/Atlas/Pixel/StavesBonn.xls>.

5. Loaded stave ranking and readiness for integration

Giovanni reported that according to the list of ranked staves:

<http://www.ge.infn.it/ATLAS/SQTF/StaveProduction/LoadedStaveRanking.xls>

there are still a few staves with old pipes that need to be revisited to decide their assign to L1 or L2.

6. Bi-stave activities and plans for next week

Danilo reported that the cabling activities of bi-staves is on hold. Andreas Eyring is at CERN and working on procedure for better potting of connector and handling precautions. It was decided to improve the potting of the connector on the PP0 side. Drawings for the tooling are ready and next week some test will be done.

Next week there will be no cabling and if the test on potting would be successful the week after integration activities would be resumed. Persons on shift are not required for next week. The shift of Franco Vernocchi for next week is cancelled.

Claudia briefly updated on the status of the electrical test setups in SR building. The cables prepared to extend the type_0 cables are completed and they work.

7. Effect of the loading on stave on module quality for AMS/IZM modules

Attilio and Claudia did some studies on the increase of the module penalties comparing STAVE vs FLEX test for modules with quasi-B_layer quality (ranking below 100).

Claudia presented a plot with the change in the penalty for AMS and IZM modules from FLEX to STAVE test. The plot:

http://www.ge.infn.it/ATLAS/SQTF/Minutes/Minutes_06-04-27_aux/STAVE-FLEX_both.gif

Both AMS and IZM modules suffer of some damage after loading. The average increase of bad pixel is ~50 for IZM and ~60 for AMS. Tails are slightly different for the 2 cases. Attilio found, by the source test, that the number of modules with high increase of the number of disconnected pixels (>350) is about 3% for AMS and 1% for IZM. Plots from Attilio:

http://www.ge.infn.it/ATLAS/SQTF/Minutes/Minutes_06-04-27_aux/disconnected_IZM-AMS_tails.gif

Some further plots and information from Attilio and Claudia are posted at:

http://www.ge.infn.it/ATLAS/SQTF/Minutes/Minutes_06-04-27_aux/

All the studies were preliminary and made with the aim to study the criteria to select modules for B-layer staves. Kevin proposed to have a discussion with Giovanni and Maurice next week to look at the issues and to prepare for the decision on module selection.

Next SQTF phone conference will be held on Tuesday 11st of May 2006 at 16:30.