

Minutes and Actions of Site Qualification Task Force

Phone Conference – 7th of April 2005

Present: (A. Andreazza), (J.-C. Clemens), G. Darbo, K. Einsweiler, M. Garcia-Sciveres, P. Gerlach, D. Giugni, F. Huegging, V. Kostyukhin, (L.Rossi), (M. Zdrzil).

Excused: E. Vigeolas.

Agenda.

1. Status of stave/sector production and readiness of staves from sites for half-shell.
2. Conformance of survey in stave loading sites. (Vadim invited)
3. Ranking and stave ranking status (Attilio invited).
4. Availability of S4445 glue and actions for the future.
5. Qualification of sites after initial-production. (Giovanni)
6. Update on half shell activities. (Danilo)

Status stave/sector production and readiness of staves for half-shell.

To monitor the status of loading in the 4 sites the usual questionnaire was circulated a before the phone conference.

Questionnaire:

1. List of loaded stave/sectors:
No. Date Load PDB Production Type
2. List of Staves/Sectors that have survey done.
No. Date Survey PDB Comment
3. List of passed LOAD/thermal cycles/STAVE tests.
No. Date End Test PDB Comment
4. List of Stave/Sectors with spreadsheets and survey raw data in the Raw PDB and PDB. (i.e. ready for half-shell according to their rank value)
5. Status of the "mini milestone". (i.e. status of the 3 staves / 6 sector selected for the milestone)
6. What is missing for the full chain of load/test setups.
7. No. of modules available for loading.

The received answers:

- Jean Claude (CPPM): http://www.ge.infn.it/ATLAS/SQTF/Minutes/Minutes_05-04-07_aux/CPPM_ProdStatus_050407.rtf
- Giovanni (Genova): http://www.ge.infn.it/ATLAS/SQTF/Minutes/Minutes_05-04-07_aux/Genova_ProdStatus_050407.rtf
- Peter (Wuppertal): http://www.ge.infn.it/ATLAS/SQTF/Minutes/Minutes_05-04-07_aux/Wtal_ProdStatus_050407.rtf

- Marian (LBL): http://www.ge.infn.it/ATLAS/SQTF/Minutes/Minutes_05-04-07_aux/LBL_ProdStatus_050407.rtf

are summarized in the table below.

Status of the production in the 4 loading Sites.

	CPPM	Genova	Wuppertal	LBL
Loaded	7 + 1 ⁽¹⁾	9	4	20
Surveyed	6 ⁽²⁾	8	4	20
El./Therm. Qual	5	7	2 ⁽⁴⁾	20
Raw PDB / PDB	3/ 3	7/ 0	0	20 / ?
Modules available	21	~20	25 ⁽⁵⁾	22 ⁽⁵⁾
Mini milestones (L/S/T) ^(a)	2/1/0	3/2/1	1/1/0	5

Table Notes

- Mini milestones: L = Loaded, S = Surveyed, T = Tested.
 - One stave is a system test stave.
 - 3D survey is made using a touch tip, in future is planned to use a laser probe.
 - LOAD and burnin made, STAVE test not completed.
 - 14 ready to go, 11 must pass RECEIVE test.
 - 7 ready to go, 15 need approval.

News from loading sites.

CPPM:

Comparison of 5 staves survey results showed a significant module bow (tens of microns) that in some case is very large (more than 150 μm). The bow happens to be large for the old staves due to the combination of high suction vacuum together with not perfect flatness of the robot head pins. This is now fixed.

Genova:

A big improvement has been seen with the new version of TurboDAQ for the source scan. The new version allows the selection of half module, instead of a whole module, and so the source can be put to illuminate only the active part, that being smaller has a higher counting rate. The net effect is a time per module reduced by 3 hours to 15 minutes!

LBL:

Francesco Zetti fixed sector 9013 that has been damaged. He has replaced module 5 (cooling channel side, in the middle) by module 510152. Sector 9013 was fully tested in past few days; it is working perfectly and therefore is going to be mounted on disk 3a. The only bright point of the accident is that the damaged module was the only module on this sector that has developed a growing island of disconnected bumps and (by a lucky coincidence) it had to be replaced by a new good module.

Wuppertal:

Bonn will help in the electrical test to qualify the staves. They will do 1 stave every two weeks. Their setup will use an environmental chamber for the burn-in. In Wuppertal the burn-in is made with a sealed C6F14 cooling circuit and an heat exchanger in a chiller bath. This system is able to reach a minimum temperature of $-26\text{ }^{\circ}\text{C}$ that is a bit higher than the required -30°C .

Compliance of survey.

Vadim reported that he had contacts with Eric to use in Marseilles its survey analysis program (the last release of the program written in PYTHON is in: <http://www.ge.infn.it/ATLAS/SQTF/Templates/SurveyGeom.py>). He also wrote a script to convert the Marseilles raw survey data (that are in excel format) into a format suitable to be processed by the python. Vadim tested its program on survey data from Marseilles with no problems. From that, we think that Eric is now performing survey of staves that is “conformal”.

Peter said that he will try to use Vadim’s program to validate their survey method as soon as possible.

There was a discussion on the different definition of bow used by Vadim and the results reported by LBL from their survey. The result being a factor 2 bigger in Vadim’s respect to LBL or “FLEX bow” definition. This has implication in the module ranking which “understand” FLEX bow definition. A fix is needed.

Vadim proposed a “loaded stave geometry” record to be used for the PDB (see: http://www.ge.infn.it/ATLAS/SQTF/Minutes/Minutes_05-04-07_aux/StaveGeom.txt)

The proposal of Vadim, circulated some days ago, rose some questions and comments from Attilio and Vaclav. Some more discussions are needed before a formal decision.

Ranking and stave ranking status

The java application made by Attilio to perform stave ranking has been tested on 5 Marseilles staves that have PDB data already entered. Penalties are very “sensible” to bow and to increase of disconnected pixels from FLEX to STAVE tests. The ranking results need tuning and definition of the threshold where a b-layer stave becomes a L2 stave after loading.

Today no staves are fully qualified for loading in half-shell, for next week we presumably have several from CPPM (four L2 and one b-layer ?) and some from Genova.

Availability of SE4445 glue.

Genova has no more tubes of SE4445 glue. The last one was opened this week and it will be used for the current stave and for the one that will be loaded next week. Wuppertal has still glue but expiring the 9th of April. Both sites used to receive glue packages periodically from Marseilles who arranged a deal with a reseller to receive a periodic delivery. Eric, not present at the phone-conference, many times claimed that his reseller was not able to deliver the glue in time as scheduled, and also that the glue received was often almost expired. He is trying another vendor, but he has no answer yet. The situation

is now very serious and we risk stopping module loading in several sites! On Eric coming back next Monday we must clarify the situation and take immediate action.

Qualification of Sites after initial-production

LBL site has submitted the document for its qualification for the full production, after the 10th loaded sector, to be approved through EDMS process

(<https://edms.cern.ch/comment/573207/1>). Some comments have been made by Attilio and Vadim (see:

http://www.ge.infn.it/ATLAS/SQTF/Minutes/Minutes_05-04-07_aux/CommentsTo_ATL-IP-QA-0025.rtf). Even if the document is already approved we asked Marian (as author of the document) to look at them and eventually revise the document.

Also Genova and now Marseilles have completed their 5th initial production stave, and they have to produce a similar qualification document. Genova plans to have it, in draft version, in two weeks.

Update on half-shell activities

The phone line went down...

An integration phone conference will be held on Thursday 14th of April and availability of staves will be discussed.

Next phone-conference: Thursday 21st of April at 17:30.