Agata/AMBMin/Feb10/final

**Minutes AGATA Management Board**

17th February 2010, Legnaro, Start 09:00

**Present:**

D. Bazzacco

A. Gadea

G. Duchêne

E. Farnea

J. Simpson Project Manager and Secretary

J. Nyberg (by EVO part)

P. Reiter

Ch. Theisen

P.J. Nolan ASC representative

**1. Apologies for absence**

**2. Minutes of the last meeting** 12-13th November, Legnaro.

The draft minutes Agata/AMBMin/Nov09/02D were accepted as a correct record of the meeting.

**Action** JS to distribute as Agata/AMBMin/Nov09/final.

**3. Matters arising from the last meeting and actions outstanding from last phone conference**

**Action** JN to update TDR with in-beam results etc.

Ongoing. Application deadline in Sweden in April. May apply for two triple clusters.

**4. ASC Report**

ASC last meet on 7-8th December, GSI.

Discussed:

PM report, this was accepted.

Status of MoU (signature, further annexes). All have signed except France.

The aim to fund and realise the 1/3 array as soon as possible.

Agreed, stay at LNL until summer 2011.

Earliest start GSI Autumn 2011.

Earliest start in GANIL 18 months later.

Formal agreement with GSI is required. Not clear yet if one is required by Legnaro.

Istanbul Physics Meeting 4-7th May 2010.

NUPNET (no news yet of recent NUPNET meeting).

Running costs. Agreed that the aim was for contributions from the major countries to balance over the period of this phase.

Agreed 2009 operation cost budget.

ASC wants to see final balance for 2009 at next meeting.

ASC agreed estimate for 2010 but requests a breakdown of costs in the detector laboratory.

ASC look at relative travel costs.

AGATA organisation, project manager

Agreed that immediate problem is the production of a roadmap for AGATA. Detailed project definition for the short term and a plan for the longer term.

**Action** JS to take this on board within the current AMB.

Inauguration, coordination council and ASC. Legnaro 8-9th April 2010.

**5. Reports from Working Groups**

1. **Detector module and characterisation**

*Some notes from PR:*

### *AGATA single detectors, deliveries, available detectors*

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|  | ***AGATA Detector Pool*** | | |  | *last update:* | | | | *09.11.09* | | |  | | |
|  |  |  | |  |  | | | |  | | |  | | |
|  | ***Detector*** | ***location*** | ***Activity*** | | | ***Delivery*** | ***Report-Date*** | | | | ***Accepted/***  ***operational*** | | |
|  |  |  |  | | |  |  | | | |  | | |
|  | *A001* | *ATC10034* | *Legnaro - ATC1* | | | *01.06.06* | *01.08.06* | | | *Ok/ok* | | |
|  | *A002* | *ATC10036* | *Legnaro - ATC3* | | | *01.06.07* | *22.04.08* | | | *Ok/ok* | | |
|  | *A003* | *ATC10035* | *Legnaro - ATC2* | | | *06.11.07* | *01.03.08* | | | *Ok/ok* | | |
|  | *A004* | *Liverpool* | *CAT ongoing* | | | *01.07.08* |  | | |  | | |
|  | *A005* | *IKP vault* | *IKP – ATC4* | | | *18.11.08* | *01.02.09* | | | *Ok/ok* | | |
|  | *A006* | *Liverpool* | *Scanning* | | | *28.11.08* | *01.04.09* | | | *Ok/ok* | | |
|  | *A007* | *Canberra* | *Repair* | | | *28.07.09* | *01.09.09* | | | *No/no* | | |
|  |  |  |  | | |  |  | | |  | | |
|  | *B001* | *Canberra* | *IKP – ATC4* | | | *18.06.09* | *03.11.09* | | | *Ok/no* | | |
|  | *B002* | *ATC10034* | *Legnaro - ATC1* | | | *01.08.06* | *01.11.06* | | | *Ok/ok* | | |
|  | *B003* | *ATC10035* | *Legnaro - ATC2* | | | *01.06.07* | *01.08.07* | | | *Ok/ok* | | |
|  | *B004* | *Canberra* | *Repair* | | | *05.06.08* | *10.11.09* | | | *No/no* | | |
|  | *B005* | *ATC10036* | *Legnaro - ATC3* | | | *05.03.09* | *01.09.09* | | | *Ok/ok* | | |
|  | *B006* | *Canberra* | *Repair* | | | *16.07.08* | *17.10.08* | | | *Ok/no* | | |
|  |  |  |  | | |  |  | | |  | | |
|  | *C001* | *TestC3* | *IKP –ATC4* | | | *01.12.05* | *01.05.06* | | | *Ok/ok* | | |
|  | *C002* | *ATC10034* | *Legnaro - ATC1* | | | *01.06.06* | *01.10.06* | | | *Ok/ok* | | |
|  | *C003* | *Canberra* | *Repair* | | | *05.10.09* |  | | |  | | |
|  | *C004* | *IKP vault* |  | | | *01.09.07* | *21.12.07* | | | *Ok/ok* | | |
|  | *C005* | *ATC10035* | *Legnaro - ATC2* | | | *11.12.07* | *22.09.08* | | | *Ok/ok* | | |
|  | *C006* | *ATC10036* | *Legnaro - ATC3* | | | *30.04.09* | *23.06.09* | | | *Ok/ok* | | |
|  | *C007* | *Saclay* | *CAT, to be tested* | | | *29.12.09* |  | | |  | | |
|  |  |  |  | | |  |  | | | |  | | | | |
|  |  |  |  | | |  | |  | | |  | | | | |

***Future deliveries by Canberra (status 14/01):***

*- A007 (new): late January*

*- B006 (reparation): early February*

*- A008 (new): mid February*

*- B004 (reparation): late February*

*- B007 (new): late March*

***Update on near future deliveries by B. Pirard, Canberra (status 04/02):***

*‘I am sorry to inform you that we are experiencing problems with the detectors to be delivered in late January and February.*

*- We had leaks on B001 (reparation) and A008 (new) in the final welding of the capsule.*

*- A007 is in final measurement phase, but it suffers from microphonics on some segments, and presents unusual peak shape on the core channel.*

*- Finally we have some issues with the quality of water in our clean room. This problem is being fixed, but it may have affected our segmentation processes since late December 2009, especially for B006 and probably A007. We have to rework the concerned detectors by precaution.’*

***Ordered, not delivered detectors:***

*Germany, 3 capsules, order in November 08, announced delivery in 2009*

*UK, 3 capsules, order in April 2009, deliveries Sept 2010, November 2010, January 2011*

*Italy, 1 capsule, order in September 2009, delivery*

*Italy, 1 capsule, will be ordered in 2010*

*France, 1 capsule, October 2009, delivery in August 2011*

*France, 2 capsule, CEA, order in process*

### *Customer acceptance tests*

***Detector A004****: energy resolution values within specs, cross talk result missing, done at Liverpool.*

***Detector C007****: delivered to CEA for CAT in February 2010.*

***Available detector types***

*A-type:*

*- five detectors are tested and within specs*

*- A004 is back from Turkey, CAT test started after one year delay at Liverpool, Detector will be accepted*

*- A007 at Canberra for repair*

*B-type*

*- three detectors are tested, within specs, used for ATC1-3*

*- B001 is within specs, exchange of In core contact, back 19th November 2009, used for ATC4*

*C-type*

*- five detectors are tested and within specs*

*- C003 failed in ATC4 and test cryostat at IKP, at Canberra for repair*

*- C007 to be tested at CEA*

# ***Status of AGATA triple detectors***

***ATC1 @ Legnaro***

*Detectors: A001, B002, C002*

* *Detector in demonstrator frame – operational 110 segments ok, 1 missing segment. Successfully employed during commissioning experiments in 2009.*
* *Warm up at 7. November 2009, put back into operation after pumping in frame for last commissioning run in 2009.*
* *Warm up at 6.-7. February 2010, several broken core and segment FETs, detector dismounted from frame, repair of broken channels and replacement of cold cabling with new set of cables, cooled down and remounted into demonstrator 14.-15. February 2010,*
* *Status 16. February: all core and segment signals ok.*

***ATC2 @ Legnaro***

*Detectors: A003, B003, C005*

*Detector in demonstrator frame – operational, 110 channels ok, 1 missing segment, problem of HV box of one core channel, HV box removed, replaced by CAEN HV unit, successfully employed during last commissioning experiments, warm up on 7 November. Put back into operation after pumping in frame for last commissioning run in 2009.*

* *Status 16. February: all core and 107 segment signals ok. One segment is missing.*

***ATC3 @ Legnaro***

*Detectors: A002, B005, C006*

*Exchange of all GANIL segment preamplifiers with Milano preamplifiers. Preamps are modified by A. Pullia and have new gold coated connectors for input signals. Delivered to Legnaro in December 2009, mounted in demonstrator frame, put into operation successfully. ATC3 is not equipped with new HV boxes.*

* *Status 16. February: all core and segment signals ok.*

***ATC4:***

*Detectors: A005, B001, C001*

*- test of A005 shows several segments with microphonics, see low energy resolution values below*

**

*- test of B001 successful,*

*- C001 still prone to HF*

*- debugging of persistent HF problem*

*- some segment channels out of spec due to microphonics*

***ATC5:***

*Detectors: missing A- and B-type detector, C004*

* *A006 after scanning, A007 after repair*
* *B004 after repair, B006 after repair*
* *C004 available*

*Hardware (cryostat and preamplifiers) existing, vacuum tests completed by CTT, was delivered to Ankara one year ago, updated electronics for cold and warm part, delivered to IKP in December 2009*

### *Scanning:*

*Scan of C001 is completed successfully, including double single scan for Crespi and Milano group.*

*AGATA detector A006 at Liverpool for scanning, ongoing*

*Mechanical modification of two test cryostats for scanning and detector tests done.*

*Quote by CTT to exchange electronics and cabling of cold part: per detector. Owners: GSI and INFN, sum ~ 2500,- Euro per single test cryostat, will be purchased via AGATA running costs.*

**Discussion**:

ATC4. Deliver or try and fix?

Problems with capsules (microphonics) are not understood (by us or Canberra).

Agreed that on balance to ship ATC4 to Legnaro.

**Action:** PR to get a formal statement from Canberra that there is a recognised problem with A005, B001, C001, etc. Also to agree that once a solution is found then detectors can be returned for repair under warranty.

A004 CAT is now finished and accepted. Doing some singles scans. Will be sent Cologne as soon as needed, next week at the latest. Will be installed into ATC4 prior to its shipment to Legnaro.

A006 coincidence scan just starting, two months needed.

Agreed that the cost to upgrade the old test cryostats (GSI and Padua) should be from running costs and take it from the German running cost allocation in Cologne. Cost is ~2.5k€/ cryostat.

PR noted that has also spent 3-4k€ on modifications to pre-amplifiers (connectors).

AG reported on status of DESPEC / AGATA in Spain. May purchase one capsule in Valencia (to be used for R&D in DESPEC then go to AGATA) and one test cryostat.

Will need acceptance test at Cologne, Liverpool or Saclay.

Spain investigating becoming a partner in the AGATA collaboration. Minor Annex is being discussed within Spanish collaboration, then will contact ASC. ASC to invite A. Jungclaus to next meeting.

1. **Front end processing**

Status of electronics February 2010.

* Digitisers (18 built)
  + **9 in use**
  + 1 to repair
  + 4 dispatched to LNL
* ATCA Carriers (39 built)
  + **18 in use**
  + 9 tested
  + 4 (V1, Pd) to adjust
  + 9 with problems at IPN
* TCLK cards
  + **9 in use**
  + 10 ready
* Processing mezzanines
  + **63 in use at LNL**

~ 47 available (some with problems)

* + 7 (old version) can be updated
    - GTS mezzanines
      * **15 in use + 5 ready**
      * 13 more being produced
    - Trigger processor
      * **in use** mini-tree for 27 detectors
      * Work started for “final” solution (*reusing carrier and GTS mezz.*)
    - PCI express
      * **18 LINCO (8 on loan)**
      * 2 available + 2 LINCO2 (prototypes)
      * 15 to be produced (some delay)
    - ATCA crates
      * **2 in use at LNL (1 in repair)**
      * 2 available (LNL + Orsay)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| # clusters | Digi. (3) | Carr. (6) | Segmezz. (21) | GTS (4+) |
| 3 | 9 OK | 18 OK | 63 OK | 14 OK |
| 4 | 12 OK | 24 OK | 84 OK | 19 OK |
| 5 | 15 | 30 | 105 ~OK | 23 OK? |
| 6 | 18 | 36 | 126 need new | 27 |

Should be able to instrument 4th triple cluster, setting up time will be required.

Issue of organisation of working group. Related to communication within the group and recent problems in changes to VDHL code, incompatible systems etc. The discussion at the AGATA week at the end of Nabil Karkour’s talk was very regrettable.

DB announced his resignation as leader of the front end processing working group.

The AMB asked if there is anything that can be done to change his position. The answer was no.

He maintains that he will continue to work on the project. The AMB welcomed this.

Other members of AMB regret very strongly this situation.

DB is still the Italian member of the AMB.

DB needs to clarify this.

How to proceed?

Discussion of how to take AGATA forward, organisation, responsibilities, see item 6.

1. **Data Acquisition**

* See reports given at AGATA week
  + New hardware (disk, pizzas, disk backup)
  + Administration : lot done. Still long todo list
  + GSC in progress (but late)
  + Ticket system
  + Ancillary merge
  + Topology generator
  + Run number
  + Watchers
  + Now priority level for each actions listed
* For next months
  + Hardware for full demonstrator
  + Ease job of physicists
  + More diagnostic and monitoring
  + Something behind run number
  + Improved message login
  + Global Slow Control
  + Pause / Resume
  + 3rd disk server; faster I/O
  + More documentation
  + Communication with DSS
  + Network philosophy: to be re-discussed to be able to write traces up to disk at higher rate
  + …

*We are slowly moving from a development phase to a “service” phase.*

**Pizza Boxes**

* 1 / crystal
* 2 Xen
* 1 Event Builder
* 1 Merge
* 1 Tracking
* 3 Disk Servers
* 1 SRM
* 2 spares
* 2 Data Analysis

= 13 + number of crystals

= 28 for 5 TCs

= 31 for 6 TCs

We have 26 . Who pays next 5? Where is DAQ money? Item 6.

What about AdaCore licence? GD has requested funds in 2010 and will know in late March.

**DAQ box for data analysis**

* DAQ box more and more used for DA
* More and more requests to DAQ administrators / Narval team
* DAQ box is not a DA box but why not
* What is the strategy?
* What is the DAQ WG supposed to do / provide? See item 5(f)
* 2 DA workstations. Status? Space is needed for these at Legnaro.

**Storage/Grid** (see Grid discussion in 5(f))

* What is the strategy?
* What is the DAQ WG supposed to do / provide
  + Transfer to Tier1
  + VO manager

**Some AOB’s**

* Mailing list, see AOB
* AGATA web site, see AOB
* Price of DAQ item already bought (PR + JN)? PR and JN to inform CT.
* Funding for next phases? Item 6.
* Need to specify what DAQ will be and what DAQ WG should do. Item 6.
* Responsibilities? Item 6.

**Meetings**

* EVO Meetings every 2-3 weeks
* 2 days meeting at LNL in April
* GSC have their own meetings (Eric Legay)

1. **Ancillary detectors and ancillary detector integration**

Setting up for next 3 experiments is taking up most time. All upcoming proposals are using standard interfaces. Claes Fahlander has asked if Lucia can be added to the list of ancillaries.

Test of an AGATA capsule at GSI.

Would need a proposal to the next PAC. Is this a sensible thing to do?

Can we make a detector and associated acquisition system available.

Do GSI want to do this?

**Action:** JS to discuss with Mike Bentley.

1. **Design and Infrastructure**

**DSS GUI:** Version 3 ready for installation.

Discussion about:

* the log files (too large, to be copied and erased, to be installed in future database),
* the GUI manual (one large document very detailed or two documents one for experts and a short one for users; second solution finally chosen),
* the on-line monitoring (Roberto proposes to produce the temperature monitoring via excel file)
* the automatic log out after 5mn nothing has been taped.

Tobias intends to generalise the java structure of the GUI. Could implement version 4 based on this new software in April. Detailed discussion on the present version of the DSS GUI manual.

**Database**: No progress on the CMS database due to health problems of Cécile. She was collecting information and generating the code. She was working at 80% of her time. Lyon proposes a pure computer person at 50% of his working time. Need for a physicist to give all information needed.

As we have seen that the CMS code is rather rigid, it is time to investigate for another system. Note that in that solution, all the code will have to be produced from scratch.

Karl to be contacted by Pete on that topic.

CT remarks that a data base for DAQ is being prepared.

**HV:** Bart tries to organise a meeting with the ISEG Company for late February.

Saclay to send the non working ISEG modules to Cologne; Legnaro to send the one from ATC#1 not working.

Saclay intend to write a document explaining the problems encountered with the ISEG module and the tests performed. Then ready to go to Cologne for tests with ISEG Company.

**LV:** Saclay received the 48V modules from LNL; sent to AXIS for repair.

Upgrades to be done on existing 6/12V modules when possible.

AXIS box #6 has been tested by Saclay and is fine; Boxes 7 and 8 should be delivered in February.

The LV manual has to be translated from French to English.

**PLC and process:** One PLC has been bought by Saclay for tests.

The user manual for PLC is being written by Sylvain.

**Autofill-VCC:** Ivan still doing tests on the GSI VCC.

LNL has produced and tested the new LNL VCC for 9 channels; problems encountered with the Digital OUT; pinout has to be checked.

SD card from Saclay received at GSI; Siemens software not yet implemented; will allow GSI to run Saclay system at GSI.

**Grounding:** Nabil to organizes a grounding VC meeting late February – early March; all to apply to the Doodle.

**Tasks list and milestones:** New version of the task list to be distributed.

Discussed in detail.

Equipment of the LNL detector lab. Using 2009 running costs UK should produce three cooling mechanics for digitisers to be installed in the detector laboratory.

**Action:** JS to chase up where these items are.

**Action:** JS to contact J. Gerl regarding Tobias.

**Next VC:** March 9, 9h30. GD to organize.

1. **Gamma-ray tracking, simulations and data analysis**

A WG meeting was held at the AGATA Week. A first draft of the minutes has been distributed. The final version of the minutes will be posted here: <http://www.agata.org/tsdd/meetings/>

Update of team activities since the AGATA Week in Jan 2010 (see also short report on GRID issues at the end).

**Tracking:** E. Merchan is looking into OFT for GSI.

D. Bloor is investigating the effect of the observed PSA position clustering on tracking to see if the poor P/T is caused by this.

**Simulations:** A preliminary version of the simulation capable of handling plunger and differential plunger experiments was produced in Padova with the collaboration of Calin Ur and Caterina Michelagnoli. Some results will be shown at the PAC meeting.

The "super paper" on AGATA simulations for the conceptual design phase has been submitted to NIM A.

**Data analysis:** O. Stezowski is working on watchers for ancillaries, etc.

B. Birkenbach (IKP Cologne) has written a Narval Emulator How To document.

It can be downloaded from here: <http://www.agata.org/howtos>

**Data bases:** No news

**Grid issues:** JN has asked O. Stezowski if he is willing to be the AGATA GRID coordinator. OS said that he does not have the time to take that responsibility. At the last AMB phone conference G. Duchêne mentioned that there may be a person at IFHC-Strasbourg that could take this job. This should be discussed at the next AMB meeting.

GD will discuss in Strasbourg.

O. Stezowski is trying to find out if AGATA can use the Tier-1 at CC IN2P3 Lyon as a second site for archiving of AGATA event data (first site is the Tier-1 at CNAF Bologna) and what conditions, costs etc. This may involve. An answer is expected in Feb 2010. It is very important to find out about this as soon as possible. We need a second site for archiving to reduce the probability of loss of data in case of failures of individual tapes used by the archiving system.

Information from Bologne. Cost of tapes 80-117€/ per TByte.

Discussion of data analysis (local replay) and how to perform it. Organisation of use of DAQ box.

**Action** JN to discuss and get the discussion going.

1. **Status of installation at Legnaro**

Since last phone conference. One detector pumped. Some leaks in feedthroughs found and fixed. Three triples installed. Only 1 out of 333 channels from detectors not working.

First experiment starts tomorrow.

PAC tomorrow. >200 days requested, 90 days for AGATA, only 60-70 days available.

Unlikely to get further in-beam test time.

Note did not perform final test in January due to tandem failure.

EF can inform PAC tomorrow that we will have 4 triples for the coming PAC period.

**6. AGATA project definition and plans for the next phase. AGATA roadmap.**

Discussed:

* + UK situation summarised, AGATA a “managed withdrawal”
  + Project definition, what this should include
  + Organisation of the project
  + Project Manager and AMB. The current personnel have to proceed in short term
  + Central “bank” with a common AGATA account (can this be held at CERN, GSI or GANIL)
  + Funding available in each country
  + Individual items to be purchased
  + Countries taking responsibility for whole items
  + Who will do what, who has responsibility for what

**Action** PJN to investigate common account issue.

**Action** All to update project definition up to start of GSI phase, 10 triples.

All aspects of project to remain basically as now (with minor improvements as appropriate).

Send to JS by end February.

**Action** JS to update project definition. Aim to fit requirements to the available resources.

**Action** JS to instigate a sub group on EDAQ developments if no new project manager is in place by the next meeting.

**7. Running costs**

Updated papers need for the next ASC 8-9th April 2010.

Details of detector laboratory costs requested by the ASC.

**Action** JS and EF to prepare the paperwork.

**8. Next AGATA Week**

Lyon was offered as a host. October/November. Need to fix a date with Nadine.

**9. AOB**

AGATA all lists. Correct links distributed.

Web pages. Agreed the need for a “volunteer”.

**10. Date and location of next meeting and dates of phone conferences.**

28-29th April, IPHC Strasbourg, lunchtime to lunchtime.

**Phone conferences** / Lyon system (GD to organise)

4th March 10:15 CET

18th March 14:30 CET

31st March 14:30 CET