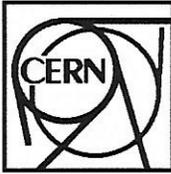


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|  ATLAS project |  CERN | ATLAS AGREEMENT 501/2012 |
|--|---|-------------------------------------|

| | | |
|------------------------------|-------------------|--------------------------|
| \$85,029 from T577030 | To T541500 | 20 September 2012 |
|------------------------------|-------------------|--------------------------|

ATLAS AGREEMENT No. 501 / 12

Procurement of read-out electronics for the SCT Detector

BETWEEN

The ATLAS Collaboration

Represented by the ATLAS Resources Coordinator on the one hand,

AND

ATLAS-US

Represented by the US ATLAS project manager,

On the other hand

IT IS AGREED AS FOLLOWS:

CONSIDERING THAT:

- The United States has signed the ATLAS construction MoU (RRB-D 98-44 rev.) and M&O MoU (CERN-RRB-2002-035);
- The US contributes to the Inner Detector sub-systems;
- The US contributes to the SCT sub-detector;
- The M&O-B for the Inner Detector includes efforts to upkeep the detector in a good working order. This requires, among other, to maintain and update the SCT RODs;

IT IS AGREED AS FOLLOWS:

ARTICLE 1 SCOPE OF THE AGREEMENT

- 1.1 The purpose of the Agreement is to record the financial effort made by
 – and within – the SCT to achieve the above goals.

ARTICLE 2 **OBLIGATIONS OF THE PARTIES**

- 2.1 VCSEL analysis: CERN has provided several samples of failing Vertical Cavity Surface Emitting Lasers (VCSELs) for failure analysis by the Evans Analytical Group (EAG). The final cost, including overheads, is \$14,427.
- 2.2 SPARTAN FPGAs: purchase of electrical components that were used in the original construction of the RODs, used for both Pixel and SCT. The cost for this procurement is \$54,052.
- 2.3 BGA packaging of BPM-12 chips: wafers of BPM-12 chips were supplied for packaging to the company QuickPak. The cost for the work is \$16,550.
- 2.4 The tasks listed in points 2.1, 2.2 and 2.3, described in detail in Annex 1, will be performed in accordance with the schedule and milestones approved by SCT PL and with ATLAS and CERN safety rules, which are inalienable parts of this Agreement. The health and accident insurances related to the execution of the work package will be the responsibility of the individuals.

ARTICLE 3 **FUNDING**

- 3.1 For producing the work package as described in Article 2, a total amount of \$85,029 will be paid from the SCT M&O team account T577030 to US team account T541500 at CERN, , using the exchange rate defined by EDH at the time of the transfer request.

ARTICLE 4 **DURATION OF THE AGREEMENT**

- 4.1 This Agreement is valid until June, 2013. It can be extended by mutual consent using appropriate Addenda.

Signed in Geneva, 25 September 2012



(S. McMahon)

SCT Project Leader
ATLAS Collaboration



(M. Nordberg)

Resources Coordinator
ATLAS Collaboration



(S. Rajagopalan)

Project Manager
US ATLAS

ARTICLE 5 **CO-ORDINATION AND ADDRESSES FOR CORRESPONDENCE**

5.1 All documents concerning this agreement shall bear the reference:

“ATLAS Agreement No. 501/12”

5.2 The performance of this agreement shall be co-ordinated by the following persons:

for the ATLAS Collaboration:

ATLAS SCT Project Leader, CERN – Department PH, CH-1211
Geneva 23, SWITZERLAND (attn. S. McMahon)

for US ATLAS

US ATLAS Project Manager, MS 510A, Brookhaven National
Laboratory, Upton, NY 11973-5000 (Attn: Srinu Rajagopalan).

ARTICLE 6 **ARBITRATION**

6.1 Any differences arising during the execution of this agreement will be submitted to the ATLAS Spokesperson which will propose solutions in the best interest of the Collaboration.

ANNEX 1

STATEMENT OF WORK

Purchase of various items for SCT and ID operation.

Several samples of failing Vertical Cavity Surface Emitting Lasers (VCSELs) have been sent for failure analysis by the Evans Analytical Group (EAG).

The analysis includes: I-V characterization, dismantling of samples by plasma etching, focused ion-beam analysis, part sectioning and microscopy of the sections. The work is handled by the Santa Cruz institute for Particle Physics who act as an agent for ATLAS and the SCT, the work is carried out by EAG.

Procurement of SPARTAN FPGAs: these components are ordered at this time as the production is to be discontinued by the vendor and we need to stockpile for the additional SCT RODs production.

ATLAS has supplied a BPM-12 wafer to a company called QuickPak. QuickPak have delivered 1,000 chips from this wafer. The chips are currently held in the UK. The wafer was sent from the UK to the US and LBNL sent the wafer on to the company. The cost for this item is \$25,550. However SCT have already paid \$9k in kind.