



CMS

M&O Expenditure for 2011

Compact Muon Solenoid

CERN-RRB-2012-033

cf. CERN-RRB-2012-032

A. Charkiewicz, RRB-34, April 23, 2012



Introduction

- **This is the tenth time the CMS Collaboration presents an M&O Expenditure report**
- **Reported expenses are for payments (open commitments related to delivered goods are reported globally)**
- **Expenses are compared to the approved budgets**



M&O-A 2002-2011 Contributions

- **M&O-A received contributions for 2011 amount to 95 %**
- **Budget years up to 2010 are now fully paid**
- **For budget year 2011 there are three outstanding contributions which amount to 692 kCHF but they are expected to be paid in the near future**
- **CMS thanks all Funding Agencies for their timely payments to the 2011 M&O-A**



CHANGE Outstanding Contributions M&O-A

Budget Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Invoiced CHF	924,788	1,765,337	2,497,757	3,692,022	6,564,745	8,847,436	10,983,548	11,216,034	12,741,585	13,366,267
<i>Paid before following year April RRB</i>	805,287	1,548,732	2,301,570	3,371,721	6,384,062	8,839,133	10,664,148	10,977,022	12,711,496	12,682,927
<i>Outstanding % before following year April RRB</i>	12.9%	12.3%	7.9%	8.7%	2.8%	0.1%	2.9%	2.1%	0.2%	5.1%
<i>Paid to-date</i>	924,788	1,765,337	2,497,757	3,692,022	6,564,749	8,847,436	10,983,548	11,216,034	12,741,585	12,682,927
<i>% Outstanding to-date</i>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.1%



M&O-A 2011 Expenditures Overview

- As agreed with the Scrutiny Group and mentioned in the October 2010 RRB, expenditures in 2010 should be examined in the context of the overall 2009-2011 spending plan which includes the Operational Model and the cost of the emergency bushing repair in the 2009/2010 Technical Stop.
- M&O-A expenditures are in line with the budget. There is an underspend of some 1.8 MCHF (excl. power). This was anticipated as the 2011 budget was increased to compensate for the bushing repair cost. Furthermore, savings of 1.3 MCHF from the 2011 allocation were planned in the DAQ area.
- The actual combined budget of 2010 and 2011 compared to combined 2010+11 expenditures shows that expenditures were within 0.3% of the total allocation. So the M&O-A budget is fully balanced.

Combined budget/expenditure for 2010 and 2011

	2010	2011	2010+2011
M&O-A Budget (without power)	11,911,000	12,553,000	24,464,000
Total expenditure (without power)	12,291,000	12,088,686	24,379,686
Balance total	-380,000	464,314	84,314
			0.34%

2011 expenditure includes 1,314 kCHF moved from On-line allocation to DAQ Account



M&O-A 2011 Expenditures Overview

		kCHF	
	Subsystem	Budget	Payments
M&O-A w/o Power	A.1. Detector related costs	4,310	3,955
	A.2. Secretariat	297	283
	A.3. Communications	282	302
	A.4. On-line computing	2,843	1,529
	A.5. Test beams, calibration facilities	96	99
	A.6. Laboratory operations	893	895
	A.7. General services	1,870	1,759
	A.9. Core Computing Infrastructure & Services	1,964	1,956
<i>M&O-A w/o Power Total</i>		12,553	10,781
Power	A.8. Electricity	1,800	373
<i>Expense Total</i>		14,353	11,154
<i>Income</i>		13,366	12,540

500 kCHF of outstanding commitments to be paid in 2012

All data extracted from Annex 1 of the Expenditure Report



M&O-B 2011 Expenditures Overview

- **As CMS does not centrally invoice for M&O-B, the Collaboration is reporting qualitatively on these expenses. A large part of these expenses are in-kind contributions from participating institutes.**
- **The overall Subsystem arrangements made in 2011 worked satisfactorily.**
- **Almost all Funding Agencies now participate in the M&O-B budget as recommended by a Special Task Force set up by the CMS Finance Board. For a few Funding Agencies formal arrangements for recognizing their contribution to Subsystems are being finalized.**
- **No major problems have been encountered by the Subsystems in obtaining funding for their M&O-B budgets.**
- **The sharing of costs in Subsystems is largely in line with the recommendation of the above-mentioned Task Force to reflect the current responsibility of Funding Agencies/Institutes.**



Summary

The RRB is invited to take note of the present expenditure report

- **In view of the operational nature of the CMS expenses we kindly ask Funding Agencies to ensure that payments are made as early as possible**



CMS

Preliminary Draft Budget for M&O 2013

Compact Muon Solenoid

Cf. CERN-RRB-2012-034

A. Charkiewicz, RRB-34, April 23, 2012



Introduction

- The CMS Collaboration is presenting, as last year, a **preliminary** draft Budget Request both for Category A and Category B M&O for information only
- The cost sharing presented in document CERN-RRB-2012-034 is **preliminary and for information only** (based on the latest PhDs list from September 2011) and will change for the October 2012 RRB
- The M&O-A costs will be reviewed by the CMS Finance Board and further input from the Scrutiny Group will be taken into account in the October M&O Draft Budget



2013 **M&O-A** PDB Comments

The M&O-A cost estimates have not changed with respect to the October 2011 RRB meeting and no changes are foreseen at present

- ***The total estimated budget for M&O-A excluding power is 13'956 kCHF***
- ***The total estimated budget for M&O-A with power is 15'606 kCHF***

This budget request may be revised further before being presented to the October 2012 RRB taking into account discussions at the CMS Finance Board input from the RRB Scrutiny Group



2013 M&O-A PDB Overview of Annex A.1

	Subsystem	Budget (kCHF)
M&O-A w/o Power	A.1. Detector related costs	4,649
	A.2. Secretariat	297
	A.3. Communications	370
	A.4. On-line computing	3,298
	A.5. Test beams, calibration facilities	96
	A.6. Laboratory operations	1,035
	A.7. General services	2,247
	A.9. Core Computing Infrastructure & Services	1,964
<i>M&O-A w/o Power Total</i>		13,956
Power	A.8. Electricity	1,650
<i>Grand Total</i>		15,606



2013 M&O-B PDB Comments

- **M&O-B costs have been partially reviewed by the CMS Collaboration. This will continue via an internal scrutiny process with dedicated Internal Scrutiny Groups (ISG) set up for each Subsystem**
- **This budget request will be further updated before being presented to the October 2012 RRB taking into account input from the RRB Scrutiny Group**
- **As requested at the October 2011 RRB, the M&O-B budget will undergo formal scrutiny by the RRB Scrutiny Group as in 2011**
- **Some modifications have been made in the M&O-B cost sharing as compared to the one presented in October 2011.**



2013 M&O-B PDB Comments (2)

- **With respect to the forecast of the M&O-B budget for 2013 as presented at the October 2011 RRB the budget has decreased from 6'258 kCHF to 6'099 kCHF**
- **The total M&O-B budget for 2013 has also decreased by 540 kCHF as compared to the 2012 budget of 6'639 kCHF**
- **The forecast for the next years shows an overall decreasing tendency (with a very slight increase in from 2015 to 2016)**



2013 M&O-B PDB Overview of Annex B.1

Amount (kCHF/FTE)			Detector					Grand Total	
Description	Ref.	Budget Category	Tracker	ECAL	HCAL	Muon	Trigger		Core Computing
Material Resources (kCHF)	B.1.01	Mechanics	40	25	0	20			85
	B.1.02	Gas-system	190	15	0	20			225
	B.1.03	Cryo-system			0	0			0
	B.1.04	Cooling system	200	40	0	0			240
	B.1.05	FE electronics		0	70	46			116
	B.1.06	Standard electronics, PS (LV, HV)	45	83	2	101			231
	B.1.07	Standard electronics, Crates		20	43	70			133
	B.1.08	Standard electronics, RO Modules	40	115	67	92	300		614
	B.1.09	Controls, (DCS, DSS)	95	135	3	69			302
	B.1.10	Sub-Detector Spares	0	0	69	22			91
	B.1.11	Areas	120	80	36	64			300
	B.1.12	Communications	70	10	1	29	15		125
	B.1.13	Store Items	70	50	15	41			176
	B.1.14	Hired Manpower @CERN	710	550	767	1,250	185		3,462
Material Resources (kCHF) Total			1,580	1,123	1,072	1,824	500		6,099
Human Resources (FTE)	B.2.01	Technical Manpower @CERN	0	0	0	0	0		0
	B.2.02	Core Computing Manpower @CMS						8	8
Human Resources (FTE) Total			0	0	0	0	0	8	8



Summary

- **The total M&O-A Preliminary Draft Budget 2013 amounts to 15.6 MCHF**
- **The M&O-B Preliminary Draft Budget 2013 amounts to 6.1 MCHF and some 8 FTEs of Collaborating Institutes manpower**
- **The RRB is invited take note of the present, unscrutinized, cost estimates for M&O-A and M&O-B**