

## **LHCb RRB Wednesday 14 October 2009**

a. 2009 Construction Budgets

b. 2009 M&O Budgets and 2010 proposed M&O Budgets

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I wish to thank Olav Ullaland for his enormous help and invaluable advices all along our transition time

## a. 2009 Construction Budget

Spending from Common Fund has been important especially in DAQ and Infrastructure, as foreseen one year ago (see CERN-RRB-2008-091). We expect DAQ and Infrastructure to continue to use Common Fund in 2010.

The large amounts for Muon, Otr and Rich are mostly repayments of loans from Core funds as anticipated in CERN-RRB-2009-053. Repayments from common orders for detector specific items: 597 kSFr

About 1 MSFr was still uncommitted at the end of August.

We do not expect any cash flow problem.

COMMON FUNDS situation end Aug. 2009 All in kSFr				
Detector	Outflow	Inflow	Committed	Totals
OTR	304.0	0.0	0.0	304.0
CALO	11.9		0.0	11.9
DAQ	510.4	-479.8	391.4	422.0
INFRASTRUCTURE	91.8	-20.0	222.5	294.3
MUON	385.0	0.0	-22.8	362.2
RICH	390.3	-97.2	-1.3	291.8
TOTAL	1693.4	-597.0	589.8	1686.2
VELO NON CORE	26.9	-77.8	0.0	-50.9

## Core

Most of the Core spending came to an end in 2006.

The last delivery of HPDs for the RICHs was done in the first half of 2007.

The Muon chamber production has also finished.

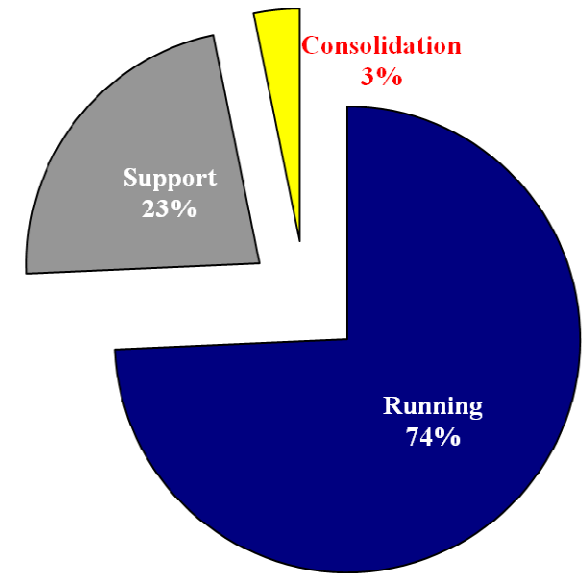
Still using Core:

Purchasing for DAQ and data storage will continue throughout 2009 and 2010.

No additional requests for funds to be presented to RRB.

## b. Category A M&O status for 2009

Item List	Spent	Budget
Detector related cost	426.2	914.0
Secretariat	105.3	192.0
Communications	5.0	12.0
Core computing	50.2	100.0
Online computing	407.2	850.0
Test Beam and calibration facilities	0.0	20.0
Laboratory operation	0.0	60.0
General services	199.2	360.0
Power		600.0

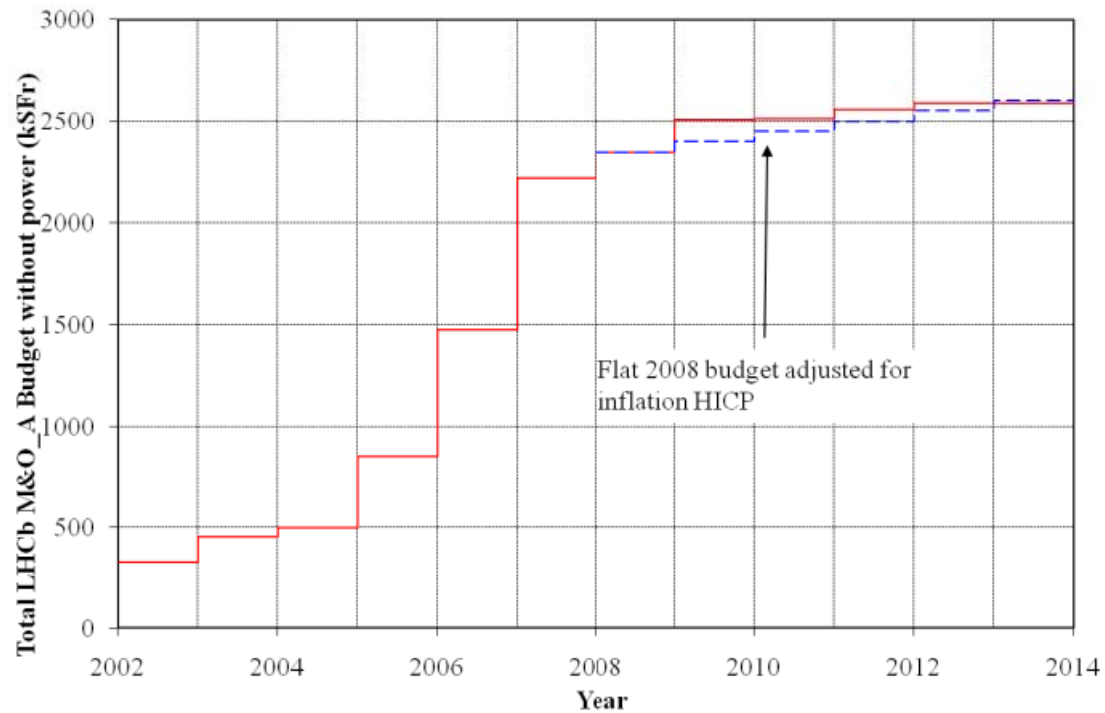


Based on extrapolations of the spending profile until end of August and the experience from previous years, we expect that the budget forecast for this year is correct for all the items apart from Online computing (see later) and Power estimate.

A compensation for power is proposed for 2010.

# Proposed evolution of Category A M&O (without Velo and Power) in kSfr:

	Year					
	2008	2009	2010	2011	2012	2013
Detector related costs	986	914	920	925	930	930
Secretariat	192	192	192	200	200	200
Communications	12	12	50	50	50	50
CORE Computing	0	100	150	150	150	150
On-line computing	705	850	750	775	800	825
Test beams, calibration facilities	30	20	30	40	40	40
Laboratory operations	60	60	60	60	60	60
General services	360	360	360	360	360	360
	2345	2508	2512	2560	2590	2615



## **Changes from 2009** (in agreement with the Scrutiny Group)

We propose that the **2008 under spending**, 106 kSfr, is kept as a buffer in M&O A. This is in agreement with CERN-RRB-2006-026.

**150 kSfr** has been allocated for **Core Computing** from 100 kSfr in 2009. The Core Computing Chapter has always been set to zero until 2008. The expressed intention of the LHCb collaboration has throughout been that we will try to find the missing manpower, 4 FTE by the last count, on voluntary basis inside the collaboration and not ask for Core Computing service tasks charged to Category A. This position has proven to be no longer tenable. The funds will be used to support people stationed at CERN.

We assume that the estimated cost for **EVO** is billed to the experiments; LHCb costs for 2010 will be ~40kSfr. This sum is included in the Communications line of the budget request.

**Changes from 2009** (in agreement with the Scrutiny Group), cont.

Unexpected changes in the LHC schedule have abruptly changed our purchase, and thereby also our need for replacement, of the online computing farm.

Due to this, we ask the RRB the permission to keep 200 kSfr in estimated under-spending in Online Computing for 2009 as a buffer for future overspending. This sum can be put on a special account or reported on successive years as under-spending in M&O Cat.A Online. However, we ask that this under-spending be not considered in the 10% limit for M&O Cat.A reimbursement.

At the same time, we have modified the coming years profile for this line, which had previously been agreed to be a constant amount of 300 kSfr. From 200 kSfr in 2010, it will linearly reach 300 kSfr in 2014.

With present knowledge, we believe this is our best guesstimate for the funding of replacements.

## Proposed Category A M&O share for 2010:

CERN-RRB-2009-118-rev-1

2010	PhD eq. total/ funding auth.			M&O A	VELO	Power	2009	
				kSFr	kSFr	kSFr	Total	PhD eq. total/ funding auth.
		%	SFr	SFr	SFr	SFr	SFr	
BRAZIL	11	3.1	78,724	3,134	18,803	100,661	118,684	12
FRANCE	42	12.0	300,581	11,966	0	312,547	321,566	40
BMBF GERMANY	16	4.6	114,507	4,558	0	119,066	88,411	11
MPI, MPG, GERMANY	6	1.7	42,940	1,709	0	44,650	40,163	5
IRELAND	2	0.6	14,313	570	3,419	18,302	29,541	3
INFN ITALY	47	13.4	336,365	13,390	0	349,755	353,645	44
NETHERLANDS	16	4.6	114,507	4,558	0	119,066	152,829	19
P. R. CHINA	3	0.9	21,470	855	5,128	27,453	29,541	3
POLAND	10	2.8	71,567	2,849	0	74,416	80,326	10
HHNIPNE ROMANIA	5	1.4	35,783	1,425	8,547	45,755	39,474	4
RUSSIA	32	9.1	229,014	9,117	23,177	261,308	282,218	32
SPAIN	16	4.6	114,507	4,558	0	119,066	136,659	17
SWITZERLAND	21	6.0	150,291	5,983	0	156,274	136,659	17
UKRAINE	3	0.9	21,470	855	5,128	27,453	39,474	4
UK	65	18.5	465,185	18,519	0	483,704	462,138	57.5
USA	9	2.6	64,410	2,564	14,569	81,544	58,754	6
CERN	47	13.4	336,365	13,390	0	349,755	321,567	40
TOTAL	351	100.0	2,512,000	100,000	78,772	2,690,772	2,691,649	324.5



## Category B M&O 2009 in kSFr

Only small adjustments are anticipated for 2010.

CALO	345
HLT*	0
Level_0*	60
Muons	229
On Line	14
Outer Tracker	120
RICH	292
Silicon Tracker	93
VELO	113

\* Numbers from 2008

Total 1266

Pictures from Olav



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 and  
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