



LHCb

21 August 2012

**Minutes of the 28th LHC Resource Review Board Meeting  
(CERN, Geneva, 25<sup>th</sup> April 2012)**

**Present**

Y. Zhang (National Natural Science Foundation, China)  
C. Jiang (IHEP, Beijing, China)  
E. Aslanides (CNRS-IN2P3/CPPM Marseille, France)  
L. Serin (CNRS/IN2P3, France)  
H. Mahlke (DESY, Germany)  
A. Zoccoli (INFN - Sezione di Roma, Italy)  
U. Marconi (INFN - Sezione di Bologna, Italy)  
A. Van Rijn (NIKHEF, Netherlands)  
B. Wosiek (HNIN, Polish Academy of Sciences, Poland)  
G. Polok (HNIN, Polish Academy of Sciences, Poland)  
F.D. Buzatu (Institute of Atomic Physics, Bucharest, Romania)  
R. Muresan (IFIN-HH National Institute of Physics and Nuclear Engineering, Bucharest, Romania)  
D. Filatov (Ministry of Education and Science, Russia)  
Y.V. Kozlov (Ministry of Education and Science, Russia)  
N. Krylova (Ministry of Education and Science, Russia)  
V. Egorychev (ITEP Institute for Theoretical and Experimental Physics, Russia)  
V. Savrin (Moscow State University, Russia)  
F. del Aguila (Universidad de Granada, Spain)  
B. Adeva (Universidade de Santiago de Compostela, Spain)  
O. Schneider (CHIPP, Switzerland)  
A. Medland (STFC, United Kingdom)  
F. Muheim (Edinburgh, United Kingdom)  
S. Gonzalez (National Science Foundation, United States of America)

**LHCb**

P. Campana, C. D'Ambrosio, R. Forty, R. Lindner, M. Pepe-Altarelli, B. Schmidt, A. Schopper, T. Gershon

**CERN**

S. Bertolucci, S. Foffano, S. Lettow, R. McLaren, C. Saitta, J. Salicio Diez, E. Tsismelis, E. van Hove

**Scrutiny Group**

E. Iacopini, B. Loehr

**Excused**

P. Bloch, F. Hemmer, U. Straumann

Documents can be found in the RRB indico pages; accessible via the LHC-RRB home page <http://cern.ch/committees/all/welcomeLHCRRB.html>

**1. Introduction.** S. Bertolucci, Director of Research and Scientific Computing.

S. Bertolucci welcomed delegates to the LHCb LHC Resource Review Board.

**2. Approval of the minutes of the last meeting.** S. Bertolucci, Director of Research and Scientific Computing.

The minutes of the last RRB CERN-RRB-2012-007 were approved without comment.

**3. Status of the LHCb experiment.** P. Campana, spokesperson  
CERN-RRB-2012-052 (report). CERN-RRB-2012-053 (presentation).

P. Campana's presentation focussed on 7 main topics:

- Highlights of LHCb results from 2012 Winter Conferences
- Shutdown activities
- Prospects for LHCb data taking in 2012
- 2012 results and status
- LHCb data taking perspectives and its upgrade
- LHCb Upgrade: the formal steps, modifications and schedule
- Collaboration matters

He concluded that:

- LHCb performed well in the 2012 data taking startup (a particular thank you to the LHC team for the careful tuning of vertical crossing !)
- A lot of activities and very good perspectives for "world record" measurements (several already achieved) with  $1 \text{ fb}^{-1}$  in CPV in b and c decays, CKM angle  $\gamma$ , rare decays + a very large spectrum of other physics items
- LHCb is looking forward to increase the statistics in 2012 and later in 2015-17
- Standard Model remains "un-cracked" but still large room for New Physics LHCb is complementing ATLAS & CMS searches for Supersymmetry. Charm CPV is a nice surprise! Further experimental and theoretical study is required
- Upgrade goal: reaching ultimate theoretical errors in flavor variables and search for unexpected phenomena in the forward region:  $50/\text{fb}$  needed
- "Clock for LHCb Upgrade has started (Framework TDR)" (quote from LHCC chairman)

*T. Medland remarked that, in general, spending had started in preparation for the Upgrades. He enquired about the status of the LHCb MoU and Common Fund commitments. C. D'Ambrosio replied that the Construction MoU has been extended for 5 years, addenda would be added to the MoU for the Upgrade. Each sub-detector would be covered by an addenda, plus a special addenda for Common Projects. T. Medland observed that the Common Projects MoU addendum would be more complicated and the timescales are short; P. Campana stated that a proposal covering costs would be completed by end 2013.*

*B. Loehr mentioned the infrastructure upgrades which would take place during the long shutdown in 2013/4 and enquired as to the source of the funding. P. Campana emphasized that M&O A and B could not be used and that Common Project funds would be needed. R. Linder added that laying fibres and cables are mostly manpower.*

**4. LHCC Deliberations** (paper only). E. Tsesmelis, LHCC Scientific Secretary.  
CERN-RRB-2012-038

The LHCC considers that LHCb has made excellent progress in all aspects of the experiment and the Committee congratulates the LHCb Collaboration on its achievements.

**5. Financial matters.** C. Saitta, Deputy Head of CERN Finance and Procurement Department  
CERN-RRB-2012-018 (report)

C. Saitta presented the updates to the Financial Report.

Outstanding contributions for the Common fund are 13.7 kCHF from Ukraine.

The M&O-A account had received additional contributions from France, Germany (BMBF), United Kingdom, CERN, China and Ukraine totalling 1.23 MCHF. The outstanding M&O-A contributions from member states for 2012 stands at 799 kCHF with 174 kCHF outstanding from previous years. For non-Member States, an amount of 504 kCHF is outstanding for 2012 and 393 kCHF for previous years.

**6. Construction Budgets.** C. D'Ambrosio Resource Coordinator.  
CERN-RRB-2012-054 (report). CERN-RRB-2012-057 (presentation)

C. D'Ambrosio reported that, at end February 2012, expenditure of the Common Funds stood at 169 KCHF with 301 kCHF still uncommitted.

Most of the Core spending came to an end in 2006. Purchasing for DAQ and data storage has continued throughout 2010 with the 3rd "tranche" of the FARM, which has been achieved in December 2010 and which has been funded by Core and non-Core resources.

**7. M&O Budgets.** C. D'Ambrosio Resource Coordinator.  
CERN-RRB-2012-056 (report).

Turning to M&O A, D'Ambrosio gave a summary and forecast for M&O A budget, by sub-system, for the years 2009 - 2015. He then highlighted the main cost drivers in 2011 and gave details of the expenses. The book closing at the end of 2011 showed a budget of 2545 kCHF, 2249 kCHF of which had been spent. He proposed to keep the difference as a buffer.

Continuing his presentation on M&O A the Resource Coordinator gave a breakdown, by Funding Agency, for the 2012 budget and for the projected budget for 2013.

D'Ambrosio concluded that the M&O Cat A budget had been shown to be well balanced over the recent years. For the near future, he did not expect large fluctuations of the main expenditure lines inside an essentially constant total budget. During the course of the year a

detailed technical and resources plan for the long shutdown of 2013 – 2014 would be finalized.

He ended his presentation with the Cat. B M&O status giving details, by detector, of the budget and the Funding Agencies participating. The total is ~1.1 MCHF.

*B. Loehr requested more precise estimates for M&O B in the future. C. D'Ambrosio replied that this was largely the responsibility of the institutes but that an attempt would be made to provide a more accurate forecast.*

**8. Summary.** S. Bertolucci, Director of Research and Scientific Computing.

S. Bertolucci summarised that LHCb has a clear plan and was on the right track.