



CMS

30 August 2012

## Minutes of the 34<sup>th</sup> LHC Resource Review Board Meeting (CERN, Geneva, 23<sup>rd</sup> April 2012)

### Present:

C. -E. Wulz (Institut fuer Hochenergiephysik /HEPHY, Austria)  
 J. Lemonne (FWO, Belgium)  
 G. Dong (National Natural Science Foundation, China)  
 Y. Zhang (National Natural Science Foundation, China)  
 C. Jiang (IHEP, Beijing, China)  
 D. Denegri (MSES, Croatia)  
 I. Puljak (University of Split, Croatia)  
 A. Hadjikyriacou (Research Promotion Foundation, Cyprus)  
 M. Raidal (NICPB, Estonia)  
 J. Äystö (Helsinki Institute of Physics, Finland)  
 P. Eerola (University of Helsinki, Finland)  
 L. Serin (CNRS/IN2P3, France)  
 Y. Sirois (IN2P3, France)  
 D. Vilanova (CEA/IRFU, France)  
 J.-L. Faure (CEA, France)  
 K. Ehret (BMBF, Germany)  
 H. Mahlke (BMBF, Germany)  
 H. Prasse (Federal Ministry, Germany)  
 M. Fleischer (DESY, Germany)  
 P. Schleper (BMBF/Hamburg University, Germany)  
 A. Stahl (RWTH Aachen, Germany)  
 T. Csorgo (Wigner RCP-RMKI, Hungary)  
 K. Mazumdar (TIFR, Mumbai, India)  
 C.B. Venkataramana (DAE, Mumbai, India)  
 M. Biasini (Italian Mission, Geneva)  
 N. Pastrone (INFN, Italy)  
 H. Kim (Ministry of Education, Science and Technology, Korea)  
 Y.-H. Pang (MEST, Korea)  
 I.-K. Park (University of Seoul, Korea)  
 J.-H. Park (NRF, Korea)  
 A. Bernotas (Lithuanian Academy of Sciences, Lithuania)  
 L. Bukauskas (Vilnius University, Lithuania)  
 B. Wosiek (HNIN, Polish Academy of Sciences, Poland)  
 G. Barreira (Laboratório de Instrumentação e Física Experimental de Partículas /LIP, Portugal)  
 D. Filatov (Ministry of Education, Russia)  
 Y.V. Kozlov (Ministry of Education and Science, Russia)  
 A. Petrov (Russian Mission, Geneva)  
 V. Savrin (Moscow State University, Russia)  
 R. Lednicky (RDMS-DMS, Dubna, Russia)  
 J. Alcaraz Maestre (CIEMAT, Madrid, Spain)  
 F. del Aguila (Ministry Economy and Competitiveness - U. Granada, Spain)  
 Q. Ingram (PSI, Switzerland)  
 O. Schneider (CHIPP, Switzerland)  
 G. W-S. Hou (National Taiwan University /NTU, Taiwan)  
 I. Koca (Turkish Atomic Energy Authority, Turkey)  
 G. Hall (Imperial College London, United Kingdom)  
 A. Medland (STFC, United Kingdom)  
 S. Gonzalez (Department of Energy, United States of America)  
 M. Procaro (Department of Energy, United States of America)  
 S. Rolli (Department of Energy, United States of America)  
 J. Butler (Fermilab, United States of America)  
 C. Newman-Holmes (Fermilab, United States of America)

CMS: A. Ball, T. Camporesi, A. Charkiewicz, I. Fisk, J. Incandela, A. Petrilli, J. Varela  
CERN: S. Bertolucci, Ph. Bloch, S. Foffano, S. Lettow, R. McLaren, C. Saitta, J. Salicio Diez, E. Van Hove

Scrutiny Group: S. Haider, B. Loehr, E. Iacopini

Excused: J. Sacton (FNRS, Belgium), E. Gazis (NTU Athens, Greece), G. Vesztergombi (KFKI, Hungary), A. Zoccoli (INFN, Italy), T. Rodrigo (CMS), R. D. Heuer (CERN), Th. Lagrange (CERN), E. Tsesmelis (CERN)

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

**1. Introduction** S. Bertolucci, Director of Research and Scientific Computing.  
S. Bertolucci welcomed delegates to the meeting of the CMS LHC Resource Review Board.

**2. Approval of the minutes of the last meeting.** S. Bertolucci, Director of Research and Scientific Computing.  
CERN-RRB-2012-006 (report)  
The minutes of the last RRB were approved without comments.

**3. Status of the experiment, including Financial Plan.** J. Incandela, Spokesperson  
CERN-RRB-2012-029, CERN-RRB-2012-031. Slides of this presentation can be consulted on the RRB Agenda page.

J. Incandela presented the results of the physics at CMS, with a list of the CMS publications. He presented the current status and the plans for the 2012 run and explained how the physics would expand leading up to Long Shutdown 1 (LS1). Looking ahead to the upgrade, J. Incandela listed the projects and preparation for LS1 and beyond. Turning to the Upgrade finances, he detailed the provisional budget for the Phase 1 Upgrade with status, the needs and the cost profile and drivers.

Concerning the Upgrade project funding J. Incandela, on behalf of CMS, sincerely thanked the Funding Agencies for their continuing interest in supporting the Upgrade. He extended special thanks to those Funding Agencies who have made contributions to the Common Fund.

He concluded by stating that CMS was:

- Currently in the middle of a major wave of physics
  - 2011 full data set results and publications
- Ready for  $\sqrt{s}=8$  TeV in 2012
  - The Standard Model Higgs story will be completed
  - Searches for new physics will expand into more difficult areas
- Successfully addressing critical issues for operation
  - ~350 Hz Core and 600 Hz inclusive rate for processing in 2013
- Making good progress preparing for the future
  - LS1 planning and upgrades

And that none of this would be possible without the support of the Funding Agencies.

*A. Medland mentioned the concerns over common items and the Common Fund and asked how the experiment was planning on taking this forward. J. Incandela replied that CMS was aware that these were difficult times and was making progress in discussions with individual Funding Agencies. A. Charkiewicz confirmed that negotiations, including Common Fund issues, were taking place and that CMS would remain flexible. An MoU would be drafted for the Common Fund. T. Medland added that written agreements were an important step towards firm commitments. More details would be presented in October.*

**4. LHCC deliberations** (paper only). E. Tsesmelis, LHCC Scientific Secretary  
CERN-RRB-2012-037

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

**5. Financial matters.** C. Saitta, Deputy Head of CERN Finance and Procurement Department  
CERN-RRB-2012-014 (report), CERN-RRB-2012-015 (presentation).

C. Saitta presented the changes with respect to the Financial report.

Maintenance & Operations – Category A: Additional Contributions received as from 1 March 2012 amounted to 2.3 MCHF. The sum of the outstanding contributions for Member States for 2012 is 3.9 MCHF. For the non-Member States, the outstanding contributions total 6.6 MCHF.

*B. Loehr made the remark that the Finance and Procurement Department had agreed to report on the special online replacement accounts. C. Saitta promised these figures would be forthcoming at the next RRB.*

**6. M&O Budgets.** A. Charkiewicz, Resources Manager  
CERN-RRB-2012-034, CERN-RRB-2012-032, CERN-RRB-2012-033 (presentation)

A. Charkiewicz reported on the M&O-A 2002-2011 Contributions, noting that the budget years up to 2010 are now fully paid and for 2011 there are three outstanding contributions which amount to 692 kCHF; these will be paid in the near future. On behalf of CMS, he thanked all Funding Agencies for their timely payments to the 2011 M&O-A.

He gave an overview of expenditures of M&O-A 2011 noting that:

- 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.

He then presented a breakdown of expenditures by Budget Category.

Turning to the overview of expenditures for M&O-B, the Resources Manager reported that:

- 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.

A. Charkiewicz closed the first part of his presentation by inviting the RRB to take note of the expenditure report and, in view of the operational nature of the CMS expenses, he requested that Funding Agencies ensure that payments are made as early as possible.

He then moved on to present, for information only, the M&O Preliminary Draft Budgets (PDB) for 2013.

For Category 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 before being presented to the October 2012 RRB taking into account discussions at the CMS Finance Board and input from the RRB Scrutiny Group. A breakdown of the PDB by Budget Category was presented.

For Category B, 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. A. Charkiewicz made the following comments:

- 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.
- 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 a decreasing tendency (with a very slight increase from 2015 to 2016).

He then presented a breakdown of the PDB by Budget Category.

A. Charkiewicz concluded that:

- 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

He invited the RRB to take note of the present, unscrutinized, cost estimates for M&O-A and M&O-B.

*Referring to page 55 and 61 of J. Incandela's presentation B. Loehr requested a clarification of the types of funding required for the Upgrade, especially the distinction between Common Funds and "Classifiable as consolidation".*

*A. Ball elucidated the situation defining that:*

- 1. M&O-A is maintenance and operation of already existing equipment*
- 2. Consolidation is adding new components to make the existing system more robust*

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

S. Bertolucci summarized that the experiments were demonstrating their awareness of the current financial difficulties of the Funding Agencies and thanked the Scrutiny Group for their hard work and advice.