Draft Minutes of the 42nd LHCb Resources Review Board Meeting  
CERN, Geneva, 17th April 2019

Documents can be found in the RRB indico pages; accessible via the LHC-RRB home page http://cern.ch/committees/LHCRRB. The attendance list is attached at the end of this document.

E. Elsen, Director for Research and Computing welcomed delegates to the meeting. The minutes of the last LHCb RRB meeting, CERN-RRB-2018-134, were approved.

Status of the experiment. G. Passaleva, spokesperson

Summary:
- The 2018 run completed a successful first phase of LHCb;
  - Record luminosity in proton-proton and Pb-Pb;
  - LHCb were delivered 10 fb$^{-1}$ which was the goal in the Technical Proposal in 1998!
- LHCb continues to provide a wealth of excellent physics results;
- The march towards the Upgrade Phase-I is continuing;
  - All subsystems progressing - installation on going!
  - Schedule is tight, working hard to be ready for LHC Run 3!
- Looking into the far future:
  - Expression of Interest for future upgrades submitted;
  - Physics case document released;
  - Green light from LHCC to proceed to TDRs;
  - A lot of opportunities!

Summary of the discussion following the presentation:
Reassuring M. Borge who noted that the Velo is on a very tight schedule, G. Passaleva explained that despite the complexity of the modules, their production is about to start and is under control. The Velo groups are very strong and have experience with the construction of the previous Velo.

Turning to the UT, the issue with the Front End chip has been solved. Beam tests show that the S/N ratio is reasonable, even with irradiated sensors. Production has started. However, a substantial delay has been incurred at it is not clear whether the detector will be ready by the end of LS2. Should this not be the case, it can be installed during a winter shutdown.

LHCC Deliberations  F. Simon, LHCC Chairperson designate, on behalf of T. Wengler, LHCC Scientific Secretary

There were no questions arising from this presentation.

Financial Matters. G. Cavallo, Finance and Administrative Processes Department

G. Cavallo presented the financial situation as of 16 April, the report covering the situation from 31 December 2018.
There were no questions arising from this presentation.

**Budgets.** C. D’Ambrosio, LHCb Resources Coordinator

Summary of M&O budgets and CORE expenses:
- The 2018 M&O cat. A Budget is well balanced and in line with the LHCb “transition strategy”, which has been detailed and approved in the 2017 RRB. A small under-spending was expected in the Online Computing and stemmed from a decision to anticipate some storage acquisition to 2017.
- Cat. B funds and resources are healthy and mostly managed by the specific projects. No variations in M&O cat. B levels are expected during LS2 for existing sub-detectors. Fully novel projects are requiring a deeper evaluation and will provide a realistic assessment of the new levels and sharing during the course of 2019.

LHCb sends big thanks to the RRB and to the SG for their warm support and advice.

There were no questions arising from this presentation.

**Summary of Upgrade financial status:**
- In the time between April and October 2019, an analysis of the LHCb Upgrade Common Funds (Add.1) is being carried in close coordination with the Scrutiny Group.
- Present status of the Upgrade Common Funds: spent/committed funds up to end 2018: 1836 kCHF.
- Spending on Common Funds is not yet at the expected level because of the non-critical delay of a few important items. Most of the funds will be spent on the farm, which will be purchased at the latest possible moment (following LHCb’s Online Computing strategy to acquire on a “just-in-time” basis to optimize returns).
- An acceleration in expenditures is expected during 2019 and 2020.
- There is no indication/request for further funds at the moment.

**Summary of the discussion following the presentation:**
E. Elsen noted that the large (16M) Upgrade Common Fund is mainly intended to replace the L0 trigger by an online computing farm. Therefore, to profit from technology developments, the bulk of the spending will occur towards the end of LS2. C. D’Ambrosio confirmed that in the past it was always the LHCb strategy to scale the online farm with the luminosity ramp up and that this allowed for more efficient spending.

Referring to slide 10 of the presentation, E. Elsen stressed the importance of having an agreement between Funding Agencies of the complete coverage of the Common Projects by the end of 2020. C. D’Ambrosio added that Article 5 of the Addendum foresees the Collaboration to explore with the Funding Agencies that joined since 2014 their ability to share the cost in a package labelled “non-core contributions”.

**Summary.** E. Elsen

There being no further business, E. Elsen thanked the Funding Agencies and closed the meeting. The proposed dates for the next RRB are 28-30 October 2019.

Reported by: E. van Herwijnen
Present

R. Shellard (RENAFAE, Brazil)
L. Vacavant (IN2P3, France)
R. Le Gac (CPPM IN2P3/CNRS, France)
A. Fischer, M. Gast (BMBF, Germany)
H. Mahlke, W. Ehrenfeld (BMBF/DESY-PT, Germany)
U. Uwer (University of Heidelberg, Germany)
M. Palutan (INFN and Laboratori Nazionali di Frascati, Italy)
D. Drewniak (Ministry of Science and Higher Education, Poland)
A. Fazacas (Institute of Atomic Physics, Romania)
V. Savrin (Institute of Nuclear Physics, Moscow State University, Russia)
V. Egorychev (National Research Center, Kurchatov Institute, Russia)
M. Garcia Borge (CSIC, Spain)
A. Gallas Torres (Universidad de Santiago, Spain)
E. Rapisarda (Swiss National Science Foundation, Switzerland)
O. Schneider (EPFL Lausanne, Switzerland)
C. Jamieson, S. Verth (STFC, United Kingdom)
G. Zinovjev (Bogolyubov Institute for Theoretical Physics, Ukraine)
M. Coles (National Science Foundation, United States of America)

LHCb
C. Bozzi, C. D’Ambrosio, R. Lindner, C. Parkes, G. Passaleva, A. Schopper

CERN
G. Cavallo, C. Decosse, E. Elsen (Chairperson), F. Hemmer, M. Krammer, H. Meinhard,
E. van Herwijnen (Scientific Secretary)

Scrutiny Group: F. Simon

Excused: F. Gianotti, M. Steinacher and T. Wengler (CERN), N. Pastrone (INFN, Italy)