



TOTEM

November 2014

**Minutes of the 15th LHC Resource Review Board Meeting
(CERN, Geneva, 14th October 2014)**

Present:

N. Fejksová (Ministry of Education, Youth and Sports, Prague, Czech Republic)
J. Äystö (Helsinki Institute of Physics, University of Helsinki, Finland)
T. Csörgö (Wigner RCP, RMKI, Budapest, Hungary)
F. Bedeschi (INFN, Italy)
D. Drewniak (Ministry of Science and Higher Education, Poland)
K. Eggert (CWRU, United States of America)

TOTEM

J. Baechler, S. Giani, E. Radicioni

CERN

S. Bertolucci, C. Decosse, S. Foffano, T. Lagrange, L. Mapelli, E. Tsesmelis, E. van Herwijnen (Scientific Secretary), E. van Hove

Scrutiny Group

C. Touramanis

Excused

R. Heuer, S. Lettow (CERN)

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 meeting.

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

CERN-RRB-2014-061

The minutes of the last RRB were approved with no comments.

3. Status of the experiment. S. Giani, Spokesperson

CERN-RRB-2014-081 (slides)

In summary:

- All RP services have been installed in the tunnel and RP detectors installed.
- T1, T2 and DAQ on schedule.
- Two upgrade TDRs submitted to the LHCC. (TOTEM Timing, CT-PPS)
- 2 papers published, 1 preprint submitted, 2 papers in preparation. Further analysis ongoing.

F. Bedeschi remarked that the developments described in the TDRs rely on challenging timing resolution. Not all of these have been demonstrated to be possible. What makes you so confident that you can reach this kind of performance?

S. Giani replied that the 50 ps time resolution for the TOTEM timing detectors are ready in production technology. With the current test beam, TOTEM is using electronics from GSI that is close to 100 ps per plane. With four planes this means 50 ps already by the end of this year. However to go from 50 ps to 10 ps is difficult. On a test bench, 10 ps has been achieved with the Cherenkov detectors of CMS. However they have to be operated at the LHC under realistic LHC conditions.

4. LHCC Deliberations (paper only). E. Tsesmelis, LHCC Scientific Secretary
CERN-RRB-2014-041

The LHCC report includes comments on the physics, the work ongoing for LS1 and the work for the upgrade of the TOTEM experiment and it is consistent with S. Giani's presentation. The LHCC congratulates the TOTEM experiment on its achievements and its good collaboration with the CMS experiment.

5. Financial matters. T. Lagrange, Head, CERN Finance Dept.
CERN-RRB-2014-042, CERN-RRB-2014-083

There is one outstanding member state contribution (19k CHF from Hungary).

6. Status of Resources and Financial Plan. S. Giani, Spokesperson.
CERN-RRB-2014-084

Hungary have committed to pay their outstanding contribution for 2014 with their 2015 contribution.

In summary:

- TOTEM is continuing the analysis and publication of physics results, with a paper on the extended $dN/d\eta$ range using displaced pp collisions at LHC [PH-preprint], a paper on the high precision determination of the LHC optics [NJP], and the first common paper with CMS (data from joint runs at $\sqrt{s} = 8$ TeV) on forward charged multiplicities in the combined rapidity range [EPJ].
- The TOTEM and CMS joint task-force for the analysis of common data on DPE production of 1-5 GeV invariant masses (QCD) has started the process for writing a common analysis note.

- TOTEM has delivered to the LHCC a TDR for the upgrade of vertical Roman Pots with timing detectors.
- Following the MoU for their CT-PPS joint upgrade, TOTEM and CMS have delivered to the LHCC a TDR on their forward physics program at full LHC luminosity.
- A new group of collaborators from Politecnico Bari has joined the collaboration. Application to membership also received from individual senior physicists from external institutes.
- TOTEM is ready to operate its largely enhanced apparatus of detectors and handle data rates/volumes increased by more than an order of magnitude, coping with the physics objectives and extended physics reach of the experiment.
- TOTEM is grateful to the RRB, LHCC, Funding Agencies, Scrutiny Group, and CERN Management, which helped the collaboration for the production of its physics results, and is looking forward to their re-iterated support to continue its extended physics programme at the LHC.

There were no questions arising from this presentation.

6.3. M&O Scrutiny Group Report. C. Touramanis, (Chair, Scrutiny Group).
CERN-RRB-2014-074

In summary:

- For the 2013 book closing, the overspending of 50K CHF was justified and the Scrutiny Group recommends the approval of the TOTEM 2013 M&O closing report.
- The budget request for 2015 has been increased because of the need of more support (more Roman pots) and computing (more data). The projection until 2018 is flat.
- The Scrutiny Group recommends approval of the TOTEM 2015 M&O A&B budget requests.

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

S. Bertolucci requested the RRB to approve the 2015 budget requests.

There being no further business, S. Bertolucci thanked the delegates and closed the meeting. The proposed dates for the next RRB are 27-29 April 2015.