



Minutes of the 1st TOTEM Resources Review Board Meeting Held at CERN on 23rd October 2007

Present:

Europe

J. Niederle (Inst. Of Physics AS CR, Prague, Czech Republic)
D.O. Riska (Helsinki Institute of Physics, Helsinki)
F. Ferroni (INFN, Italy)

North America

M. Pripstein (NSF, USA)
J. Whitmore (Pennsylvania State University, USA)

CERN

J.-J. Blaising, J. Engelen (chairman), D. Jacobs, C. Jones (secretary), S. Lettow, B. Salami (repl. P. Geeraert), J. Salicio Diez, S. Schmeling, E. Tsesmelis, E. Van Hove

TOTEM

K. Eggert, S. Giani, M. Lo Vetere, E. Radermacher, A. Scribano,

G. Lafferty (Chairman of the M&O Scrutiny Group)

1. Introduction

J. Engelen, Chief Scientific Officer

The Chairman, J. Engelen welcomed the delegates to the first meeting of the TOTEM RRB. Although this fifth LHC experiment was relatively small and therefore manageable perhaps by a less formal structure than a full RRB, the experiment had now reached a stage where a MoU was necessary and was indeed had been prepared, ready for signature. It was perhaps the moment to place the experiment on a more formal footing and hence the choice to create an RRB for TOTEM.

2. Status of the Experiment,

Papers CERN-RRB-2007-115

E. Radermacher, Technical Coordinator

Presentation and Film - see Indico agenda page

E, Radermacher presented a comprehensive overview of the experiment and its components. This was illustrated with a number of interesting photos. Details of the planned schedule were given. He showed a film of the detailed steps in the assembly of the CMS Forward region. This presentation is available both as a paper and as slides and is not further summarized here.

E Radermacher concluded with the following summary:

- All Roman Pots were installed in the LHC. One detector assembly would be commissioned at the beginning of 2008. The 220 m stations should be fully equipped with 12 detector assemblies, tested electronically and for cooling, before the LHC commissioning phase.
- All T1 CSC chambers should be delivered by spring 2008. All would be tested with cosmics before mounting. One final half-telescope with cables should be tested with cosmics in December. It was intended to have 2 final CSC half-telescopes ready in spring 2008. The remaining 2 half-telescopes could be installed after the LHC commissioning phase.

- The production of the T2 GEMs was finished. At least one final half-telescope would be tested in the test beam, the other with cosmics. All 4 half-telescopes could be assembled by summer 2008.
- The electronics production was on the critical path due to lack of manpower resources. They hoped that all parts would be ready in spring 2008.

Discussion

J. Engelen thanked E. Radermacher for his comprehensive presentation, and asked whether there were any questions on the technical parts of the TOTEM Status Report.

M. Pripstein enquired about the relationship with CMS, notably because the installation depended heavily on CMS's scenario for installing equipment. On paper TOTEM had planned not to interfere with the CMS schedule but how vulnerable was TOTEM if there are problems. E. Radermacher replied that they had had a special meeting with CMS on this topic. It turns out that one side seemed to be easier than the other, being the one where CMS might not have the forward ECAL. However, every time that CMS was opened the T1 detector had to be taken out. At this stage several scenarios were possible. There would be a further meeting in January to discuss the possibilities.

J. Engelen noted that this was clearly a very important issue and it had the attention of both experiments. The current working assumption was that the beam pipe of CMS would be closed from March to April. Was it interesting to run with the silicon telescopes only at the beginning? E. Radermacher replied that if necessary they could run initially with only the Roman Pots.

J. Engelen noted that TOTEM would not, for financial reasons, send their data acquisition to CMS but would they send their trigger decision? K. Eggert replied that they were having meetings with CMS on this topic. There would be no common (with CMS) trigger and DAQ due to financial and manpower restrictions. Hence TOTEM was obliged to concentrate on their own DAQ and trigger generation, having in mind however that, at a later stage, common trigger could be tried. At the start of the LHC, TOTEM and CMS would collaborate to understand together the beam conditions and also the luminosity.

F. Ferroni asked how it would be decided when TOTEM would run. J. Engelen replied that the Programme Coordinator, M. Ferro-Luzzi had started meetings with the machine people and the experiments in order to come to an optimum understanding of how start-up and running should happen. TOTEM would profit from any beam that was safe at the beginning.

3. LHCC Deliberations (paper only)

Paper CERN-RRB-2007-114

LHCC Scientific Secretary, E. Tsesmelis

Delegates had no further comments to make and the RRB **took note** of the report of E. Tsesmelis.

4. Financial matters

Paper CERN-RRB-2007-113

B. Salami, CERN Finance Dept.

B. Salami presented an update to the financial situation reported in the above paper, in which the information was correct to the end of August 2007. The full details can be found in his paper.

He confirmed that the TOTEM Common Fund presented a positive balance of 131 kCHF. They had received a new contribution to the Common Fund from the USA for 59 CHF. The Funding Agencies from Poland and Great Britain had both left the Collaboration. The missing contributions had been covered by additional contributions received from the Czech Republic and from Estonia.

Discussion

J. Engelen thanked him for this clear presentation. There were no questions.

5. Status of the Resources and Financial Plan K. Eggert, Spokesman

Papers CERN-RRB-2007-116

5.1 2008 Construction Budget

K. Eggert presented the Financial Status of TOTEM as documented in his paper. Slide 2 gave the contributions in kCHF by Funding Agencies and by sub-detector, including common projects, according to the TOTEM MoU. Warsaw had been unable to remain in the Collaboration and the Collaboration Board had decided that the missing 130 kCHF should be distributed in proportion to the to the institute investments in the construction. Slide 4 showed the TOTEM financial matrix, containing the breakdown of the expenditures by funding agency and by project with respect to the MoU forecast. Item 1.8 included the redistributed Polish funds. Slide 6 summarized the financial status of the TOTEM experiment in October 2007, giving the figures from the MoU and the current projections. The original total cost was 6.47 MCHF but this had now risen to 6.92 MCHF, an increase of 0.45 MCHF. They had made a formal request to CERN for additional money for the Roman Pots and they were very grateful to receive an extra 438 kCHF. Further contributions from Prague, Estonia and the Common Fund had helped largely to solve the problem. The current formal balance was positive at 56 kCHF. Slide 7 summarized the state of the Common Fund which currently added up to 190 kCHF.

Discussion

J. Engelen asked members of the RRB for comments or questions at this stage. D.O. Riska was very happy to see the present status of this experiment as presented formally at the RRB and he found this very informative and useful. He was very pleased to see this experiment coming together.

M. Pripstein wished to issue a cautionary note. The Case Western Reserve proposal to NSF was at this stage just a proposal up for a process of peer review. He hoped that this would succeed but at this stage one could not be sure.

K. Eggert added that one Hungarian institute was also seeking some money for TOTEM.

There were no objections from the Funding Agencies to the new proposals for covering the foreseen Polish contribution.

5.2 Approval of the TOTEM M&O MoU

S. Giani, Resources Coordinator

Paper CERN-RRB-2007-110

S. Giani introduced the TOTEM M&O MoU as prepared by the Collaboration with the assistance of D. Jacobs for which they were very grateful. This was submitted to the RRB for approval. The current number of qualified authors was 62 and CERN represented 28% of this. The three INFN institutes constituted 45%, Finland 11%, Estonia 5%, Prague 3% and the USA 8%. In general the structure of the MoU was modelled on the MoUs of the other experiments.

Discussion

J. Engelen thanked S. Giani for this presentation and asked whether there were any comments. D.O. Riska noted that some of the numbers in the tables looked a priori somewhat surprising. He had discussed with the spokesperson and understood that there were important reasons for this.

5.3 2008 M&O Budget

Paper CERN-RRB-2007-111

S. Giani presented the draft 2008 M&O budget which totalled 630 kCHF or about 6% of the construction budget. This was higher than the corresponding percentage fraction for the other LHC experiments. There were reasons for this. In the case of TOTEM the detectors had to be installed and removed several times which meant more maintenance, risk and technical work. In addition they operated the detectors very close to the beam. This made the environment more hostile and hence increased the need for spares. Furthermore the M&O costs could not be reduced below a certain level, whilst the overall cost of the experiment was not so high leading to a higher fraction. The close link to the machine operation increased the cost of the controls which were very important, for example the critical slow controls of the Roman Pots close to the beam. Finally the software and software infrastructure costs were somewhat independent of the size of the experiment. TOTEM was working with the Scrutiny Group to consider each item line by line.

Discussion

G. Lafferty asked whether it was clear to everyone that repairs and exchanges were being considered as part of Category A, whereas normally the groups that produce the detectors were responsible for the spares and repairs. He proposed to look at this during the scrutiny exercise.

5.4 M&O Scrutiny Group Report

Paper CERN-RRB-2007-112

G. Lafferty. Scrutiny Group Chair

G. Lafferty, chairman of the M&O Scrutiny Group, noted that the papers for TOTEM had been made available to them shortly before the end of the final Scrutiny Group meeting. The Scrutiny Group felt that it was not able to give this all the attention it deserved at that stage and had proposed to organise a special meeting with TOTEM in November 2007 in order to be able to discuss in more detail. The paperwork and presentations made available today had filled in many of the gaps. He proposed to meet briefly with TOTEM after the RRB in order to discuss what further information should be made available for November. After this Scrutiny Group meeting, they would prepare a brief paper, for J. Engelen to take forward, on the level of resources needed for 2008.

Discussion

J. Engelen noted that since this M&O budget had not yet been scrutinized, it could not be approved at this meeting. However, he hoped that, after the Scrutiny Group meeting, they could proceed by email or by telephone to an approval of the budget. He invited general comments on the M&O presentation and on the approval of the MoU.

D.O. Riska thought that one could proceed as suggested, providing that the total sums after scrutiny did not wildly exceed the present request from the Collaboration. He requested a table, as given by the other experiments, of the M&O-A and M&O-B requests for each Funding Agency.

G. Lafferty noted that with the present numbers it was not clear which items belonged to Cat. A and which to Cat. B and the Scrutiny Group would need to look at this.

J. Engelen suggested that an alternative to organising another RRB meeting might be to organize a video-conference or telephone conference. He invited further comments on how to proceed with the MoU.

F. Ferroni saw no particular problem. It was not substantially different from the others and he would take it back to INFN with the usual caveats on the availability of the money. It was proposed to ask the delegates to take their copies, already signed by J. Engelen on behalf of CERN, back to their Funding Agencies for signature.

D.O. Riska also had no problem with the text but had some detailed queries concerning the contents of an Annex. This was clarified in discussion with the Spokesman.

M. Pripstein asked whether the whole Scrutiny Group would be involved or how they would proceed given that several members were leaving. G. Lafferty replied that he intended to assemble as many as possible of the current experienced members, given that he doubted that any new members would be in place in time.

6. Composition of the Scrutiny Group in 2008 J. Engelen

J. Engelen proposed to skip this point, given that it had been covered in all of the other RRBs.

7. Summary, Future Activities & A. O. B. J. Engelen

J. Engelen noted that, with energetic leadership from TOTEM, and with the help of the Funding Agencies, TOTEM had been brought to a clear technical and financial basis. The experiment would contribute to the results from the LHC. He considered that the meeting had been useful and if any members had any remarks on the format of this meeting he would be pleased to discuss.

<p>The next RRB meetings in 2008 are provisionally scheduled to take place at CERN on Monday 14th, Tuesday 15th and Wednesday 16th April 2008 and on Monday 10th, Tuesday 11th and Wednesday 12th November 2008</p>

There being no questions and no further business, the Chairman thanked the participants and closed the meeting.

C. Jones
November 2007