

MICE Executive Board

8th January 2016; 15:00 GMT

Present: MP, ABr, CB, KL, CR, DR, VP, SB, MB, PS, JC, CW, RT, ABl

Apologies: DK

Verbatim notes

1. Introduction: KL

- Next week we will have the optics review and the first gathering to take forward the replanning of the project following the spectrometer-solenoid-recovery review. We will therefore have some more time to talk over the issues that we shall touch on at this EB.

2. Minutes and actions: All

- Notes of the previous meeting were accepted. Further corrections would be sent to CR and KL should EB members find issues that need to be addressed.
- **KL:** Check availability for CM44 at RAL in ISIS shutdown and propose dates.
 - **Ongoing:** Dates that have been targeted (30, 31 March, 01 April 2016) are holding up. Plenary sessions likely to be in RAL Auditorium. Expect to be able to confirm next week.
- **ABr and DK:** Investigate holding CM45 in the US and proposed dates at the next EB meeting.
 - **Ongoing:** Agreed that **KL and CB** would define a two-week time window and then **ABr and DK** will work out arrangements for meeting in the US.
- **CW:** Organise an appropriate magnet-system operational readiness review exercise.
 - **Ongoing.**
- **CW:** With the MIPO, gather list of outstanding commissioning tasks for the Step IV experiment.
 - **Ongoing:** draft list circulated to the MIPO for comment.
- **PS:** Contact JINST to understand status of pion-contamination paper.
 - Contact made as yet the Journal had not found referees willing to referee the article. We *agreed* to keep the action and that PS would send the article identifier to **MP** who will discuss the publication of the paper with V. Shiltsev (FNAL) who is one of the editors of the journal.
- **PS:** Clarify the status of the invoicing for the 2015 levy of the Common Fund.
 - **Stands:** stalled; request for clarification sent to R. Hayes who is not yet back at work.

3. Project Managers report: CW

- See slides. Points noted:
 - CR asked what the details for defining the positions for the realignment of beam line were. In the discussion it was noted that the coordinate reference at Wang, where the field mapping was carried out, may not be the same as in the MICE Hall and that therefore it may not possible to go directly from the offsets calculated by JC to offsets in the Hall. We **agreed**: **CW**: will convene a meeting with the relevant experts to make sure the translation to shifts in MICE Hall coordinates was accurate; and **CW**: will consult with T. Millington to make sure that appropriate use is made of beam-line CAD/geometers packages.
4. **Operations Coordinator's report: SB**
- See summary at: <http://micewww.pp.rl.ac.uk/projects/mice-eb/wiki/2016-01-08-Operations>
 - CR raised the question of whether additional measurements are required to be sure of the LiH composition (i.e. whether there has been significant conversion to lithium hydroxide). It was concluded there was no need to make a measurement since contamination would only be at the edge of the module and would require "invasive samples" to be taken. Weighing the whole disc would not be sensitive enough.
5. **Paper status and Physics Coordinator's report: CR**
- See summary at: <http://micewww.pp.rl.ac.uk/projects/mice-eb/wiki/2016-01-08-Physics>
 - It was noted that the material budget needs to be included in the geometrical description of the experiment. The formal route by which the system experts validate the material in the simulation needs to be clarified (action **CR, DR, CW**).
6. **Optics review: KL, CR**
- Main points made in the CR's report. It was noted that the location was incorrect in the rehearsal WWW site and that transportation would need to be arranged for some attendees who are staying in Abingdon.
 - We **agreed** the optics review will receive presentations that assume that the full functionality of SSD will be recovered for the cooling demo because of the operation risk implied by not doing this. Therefore, there is no need to present the alternative options that were considered and rejected at the December review.
7. **S/w&C issues: DR**
- Issues:
 - Tracker:
 - Sign flips in reconstructed quantities are fixed. However there are still some sign-flip issues in the MC;
 - Track-finding efficiency is too low and is being studied; this is highest priority. It is believed that the present low efficiency is a result of cuts in the pattern recognition and acceptance effects that are not properly accounted for.
 - TOF space point efficiency:

- The space-point efficiency is unacceptable low. This is believed to be a combination of effects including calibration and acceptance. The issue is under investigation.
 - Data reprocessing:
 - Need official reprocessing of the data. DR processed all data as it was taken. Now need to reprocess with best code and best knowledge of the geometry and calibration. Reprocessing may have to be done on the GRID in the long term. In the short term it will be done on the reconstruction farm in the MLCR.
 - MC:
 - Need to make a full, consistent simulation of the experiment. Some structural issues need to be addressed before this can be done on the GRID. Belgrade is working on the GRID processing functionality. In the mean time, processing will be done on the offline reconstruction machines in the MLCR.
 - The MC execution speed is rather slow. The limitation appears to be in the Geant part of the code, which is slower with field on than with field off. For 10k particles at TOF1 takes 3-4 hours. Speeding this up is not yet the top priority.
 - It was noted that it would be desirable to allow the reconstruction of simulated events as this would avoid having to re-do the time-consuming simulation step. This is presently rather a slow process because it requires the execution of an Ascii interface. It was *agreed* that the re-working of the interface to use ROOT would be given priority since it would allow more rapid turn around in response to upgrades in the reconstruction.
 - Controls and monitoring/networking:
 - Separation of controls network from the DAQ network in the Hall to use static addresses is underway (P. Hanlet) is working on this. Will take about a week, starting next week.
 - SSH lock-out to controls computers will be done using a process variable that declares the operational state of the experiment. It is anticipated that this will take about 10 days.
8. **MICE-UK cost to completion review: PS**
- Dealt with in CW slides.
 - Noted that the delay was motivated by STFC's wish to hold a review of the full project at the next MPB/RLSR. The MICE-UK cost-to-completion review would then be review the UK contributions to the project as a whole.
9. **Preparation of response to RF review, RLSR/MPB feedback and bimonthly report: KL, CW**
- A positive outcome had been achieved in discussions with CERN. A personnel-exchange agreement would be established to allow UK personnel to gain experience on working systems through contributing to the commissioning of Linac 2 and 3. This is documented in the response to feedback, which is nearing completion.

- Those responsible for contributions that have not yet been committed have been contacted. Goal is to complete both documents next week.
10. **Common Fund: PS**
- Points noted above.
11. **Speakers Bureau: VP**
- Dobbs and Hanlet to contribute to iPAC. Will submit the same abstracts to ICHEP.
12. **Next collaboration meetings:**
- 2016:
 - **CM44 to be defined 2016**
 - CM45 Summer June 2016
 - CM46 03rd to 07th October 2016
 - 2017:
 - CM47 13th to 15th February 2017
 - CM48 26th to 28th June 2017
 - CM49 2nd to 4th October 2017
13. **DONMs:**
- 12th February 2016
 - 11th March 2016
 - 8th April 2016
14. **AoB**
- KL must make a presentation at CERN on the 21Jan16 to request that the MICE Recognised Experiment status be continued. CERN has asked for a list of team account numbers associated with MICE. We *agreed* that **ABI** will ask CB members to send KL their team-account numbers.

Summary of actions

- **KL:** Check availability for CM44 at RAL in ISIS shutdown and propose dates.
- **ABr and DK:** Investigate holding CM45 in the US and proposed dates at the next EB meeting.
- **CW:** Organise an appropriate magnet-system operational readiness review exercise.
- **CW:** With the MIPO, gather list of outstanding commissioning tasks for the Step IV experiment.
- **PS:** Contact JINST to understand status of pion-contamination paper.
- **PS:** Inform MP of the identification number of the paper so that MP may talk to V. Shiltsev.
- **MP:** When appropriate, talk to V. Shiltsev on what is holding up the pion-contamination paper.
- **PS:** Clarify the status of the invoicing for the 2015 levy of the Common Fund.
- **CW:** Consult T. Millington about beam-line/geometer's CAD package that can be used to enable alignment of the MICE beam line.
- **CW:** convene a meeting of the relevant experts to agree movement of SSD.
- **DR, CR, CW:** Agree mechanism by which material budget is signed off for reconstruction, analysis and simulation.

- **ABI:** solicit from CB the CERN Team Account numbers that have been used to support MICE.