

## MICE Executive Board

3<sup>rd</sup> May 2016; 15:00 GMT

**Present:** S. Boyd, C. Rogers, C. Whyte, K. Long, D. Rajaram, D. Kaplan, M. Palmer, J. Cobb, C. Booth, A. Bross, P. Soler, M. Bonesini  
**Invited:** J. Boehm

### Notes

#### 1. Introduction: KL

The EB should have met on Friday 06May16. However, the urgency with which we need to address the issues raised in the STFC MICE-UK cost-to-completion review made it imperative to move the meeting forward.

#### 2. Minutes and actions: All

- **CW:** Organise an appropriate magnet-system operational readiness review exercise
  - **Stands.**
- **KL:** Liaise with CB to generate revised collaboration list for the MICE WWW site.
  - **Done.**
- **KL:** Post measurements of 8 V ms activation run
  - **Stands.**
- **KL:** Respond to VP on future conference contributions
  - **Stands.**
- **CB:** send request for update to list of people on common fund
  - **Done.**
- **KL:** Confirm date for October Collaboration Meeting.
  - **Done.**

No comments had been received on the notes of the two preceding meetings; therefore the notes are declared accepted.

#### 3. Redefining the scope of the cooling demonstration: KL/All

KL outlined the document defining the descope options that should be considered following the STFC MICE-UK cost-to-completion review. The document was circulated and is posted, in its revised (final) form on the EB meeting page.

During the discussion, the following points were noted:

- In all configurations in the cooling demonstration it will be desirable to have the capability to withdraw the primary LiH absorber without removing parts of the PRY and withdrawing modules from the beam line.
- Option in which the solenoid which is presently downstream is installed upstream such that the tracker patch-panel is closest to the

cooling cell could be considered. Principal risk is the failure of the magnet. The measurement surfaces are moved closer to the cell. It was noted that in recent studies of this configuration, transmission was relatively low. Engineering would be required to stand-off the forces. The locations welded to the solenoid vacuum vessel designed to support the Virostek plates could be used for this purpose.

- It was noted that, in principle, and with a re-design of the FC QD/QP system it would be possible to power each of the coils in the FC separately. This could be studied, initial feeling was that the coils are too close together for a big “win”

MP commented that, in his view, unless there was a more-or-less realistic lattice that used a recovered downstream spectrometer solenoid the DOE would conclude that the experiment being implemented was not the one that they had approved and would terminate support. It was noted that this was a non-collegiate approach given that the present situation had been caused by the failure of a component for which the US is responsible.

It was **Agreed** that the single-solenoid options should be pursued as they were most likely to match the constraints now imposed on the project.

Later in the afternoon, in a phone call involving ABr, CW, KL and MP it was noted that the stabilisation of SSD though an intervention involving disassembly of the turret, cutting a portion of the radiation shield and sealing the feed-through serving M1 and M2 should also be considered.

The descope-options document was revised in the light of these, and other, comments and is posted on the WWW site at:

#### 4. **Project Managers report: CW**

- Updated MICE Hall plan has been posted on the Ops Page. Points noted:
  - Work continues, essentially on schedule, on the QP/QD system;
  - Preparation of the FC for pump-out, cooling and powering is on going;
  - General mechanical and electrical work progresses, in particular, the chiller required to allow the separation of the demin and inhibited water systems has been delivered and will be installed as soon as possible. In the mean time, the pipe-work and electrical preparations are being made. It is important that this work is done before the ISIS shutdown.
  - The end-capes for the FC that will allow the LH2 absorber to be tested in R9 will arrive in the fourth week of July. Not comfortable. No further damage to body of the absorber vessel
  - Offset bellows: quotes received were high making it more sensible to revise the design. This work is in hand.

#### 5. **Operations Coordinator's report: SB**

- No operations, so a very short report. Need now to make the run plan for the Jun/Jul ISIS User Cycle.

#### 6. **Paper status and Physics Coordinator's report: CR**

- A physics w/s was held at RAL on Thursday 28Apr16: points noted from the presentation:

- Reconstruction of data and MC now “looks good”; there is still small shift in  $p_z$ ; but this is believed to be converging.
- Muon shoulder in the 07Oct15 data is, most likely, due to scraping in the diffuser.
- Fits to non-linear magnetic field going well; (Langlands).
- Tails in scattering distribution still being studied.
- Demo paper being held up on reconstruction. In the light of recent developments it was *agreed* to remove the “performance” element from the paper to allow it to be published very soon. The focus would now be on the demonstration of the suitability of the lattice.
- FC magnet alignment. Couple of mm scale precision on magnet position and field.
- Beamline optimization; *agreed* that it is important to explore around minima derived in A. Liu’s genetic algorithm.

## 7. S/w&C issues: DR

- Offline:
  - Several improvements to Kalman have been committed. Small o/s in  $p_z$  (noted above) is under investigation. Helical track-finding efficiency is being improved.
  - Minor geometry issues being resolved; MC has no material in the diffuser “out” position. Investigations continue to be sure that introducing the necessary material reproduces the effect observed in data.
  - The speed of the MC remains an issue.
- Online:
  - Trigger prescale: to resolve the trigger pre-scale issue requires modifications to all elements in the data flow. The revised trigger will need to be implemented, then validated. After that the modify/validate procedure will have to be carried out throughout the data flow. There will be a meeting on Friday 06May16 to pull together the analysis.
- C&M:
  - The network-validation tests agreed at CM44 still need to be done.

## 8. Common Fund: PS

- Presently carrying out the 2016/17 census.

## 9. Speakers Bureau: VP

- IPAC:
  - In hand. Four MICE papers will be submitted.
- ICHEP:
  - In preparation. MICE has a talk and a poster.

## 10. Next collaboration meetings:

- **CM45: 28—30 July 2016**
- 2016:
  - CM46 05th to 07th October 2016
- 2017:

- CM47 13th to 15th February 2017
- CM48 26th to 28th June 2017
- CM49 2nd to 4th October 2017

**11. DONMs:**

- 10Jun16
- 15Jul16

**12. AoB**

- None.

**Summary of actions:**

- **CW:** Organise an appropriate magnet-system operational readiness review exercise
- **KL:** Post measurements of 8 V ms activation run
- **KL:** Respond to VP on future conference contributions