MICE Executive Board

30th July 2016; 13:30 BST

Present: CW, MP, DK, JC, DR, MB, PS, CB, CR, KL

Notes

1. **Introduction: KL**
   Results were presented at the CM on the emittance measurement and scattering analysis that had been agreed could be tidied for presentation at the summer conferences.

2. **Minutes and actions: All**
   - **CW:** obtain costing for minimum viable RF-power programme;
     - **Stands.** Have breakdown of what the programme entails and need to decide level of resource that is invested.
   - **MP:** Provide costing for the stabilisation of SSD.
     - **Closed.** Documentation will be sent by MP to CW. Estimate was $210K to support personnel from US to come to the UK to do the stablisation. The cost of cryogens would be on top of this. Request to DOE is to hold $250k in internal contingency.
   - **KL:** Propose division of material for parallel session contributions at NuFact.
     - **Done.** Base contributions on papers (demo, emittance, scattering).
   - **CB:** Invite representatives of Novi Sad and UNIST as observers to CB at CM45.
     - **Done.**
   - **KL:** Provide relevant contact details to CB for previous action.
     - **Done.**
   - **KL/CW:** Consider visit to LBNL to inspect single cavity modules and negotiate the next steps.
     - **Stands:** perhaps end of August.

3. **Issues from CM45**
   It was noted that a "holistic" approach to the commissioning and operation of the magnetic channel must be taken. Demonstration of operational stability requires extended operation in a stable configuration.
   DK: Raise the question of how key personnel may be protected to ensure the success of Step IV. The issue was discussed but no clean conclusion was reached.
   PS: Reported that MICE-UK requested 7 students, but STFC has allocated only 3. The mismatch and how to deal with it is being addressed by the UK group leaders.

MP: Emphased the need to take a system-level approach to the experiment; experts must be allowed time to come to the experiment to commission the equipment. MP expressed serious reservations on US side about idea of bracing the SSU/SSD vessels from the PRY. Given that there are structures in place to hold the forces, a leg-stiffening exercise for the PRY supports and the magnets may be more beneficial. The first order gain may be achieved by stiffening the legs of the magnets.

CW: agreed to make a careful analysis of forces.

Discussion: the forces are transmitted through the vessel and the legs to the floor. The distribution of the forces and the local stress must be evaluated. In addition, careful measurements are required. In the event of a quench with all magnets energized, each magnet will execute a form of damped simple harmonic motion. With the vessels braced, or the legs stiffened, the magnets would still execute SHM governed by the spring-constant of the cold-mass supports. These effects need to be considered.

Operation of SSU/SSD at 3T or 4T: After consideration of the stored energy and the various quench scenarios it was ***agreed***, at least for the period to Christmas 2016, to operate at 3 T in the tracking volume.

Operating model: it was noted that either the magnets must be ramped together or a holistic quench detection system must be implemented (or both, presumably). The latter will require the integration of the FC DCCTs.

Netowork drop-outs: are the drop-outs being caused by network issues? Is it possible that a "ping" to power supplies causes the observed transients. Agreed that it was important to understand the network.

DK: Noted that the online meetings had gone into abeyance and an attempt should be made to restart them (**action DR**).

4. **EUCARD to ARIES; steps to be taken**

   We agreed that it is important to European MICE collaborators that TNA for ICTF be continued in ARIES. This will be hard. The following actions were agreed:

   KL: to seek a meeting between the ARIES coordinator, MB and RT.

   KL: EC "RISE" programme requires the merging of several experiments; so it is necessary to consult with ISIS, DIAMOND, DL, to identify the list of projects. Call is December 2016, April 2017 is the deadline.

   MB: will contact a colleague in Italy who made a successful bid to RISE to exploit the Riken facility at RAL.

   KL/MB: Collaborate on the consideration of a bid to RISE.

5. **Closing the author-list update**

   Agreed a new iteration of the author list will be prepared in 2 weeks.

   Agreed that the demo paper will be submitted to PRSTAB.

   KL: Will revisit the MICE contributions to the JINST volume.

6. **Common Fund: PS**

   Actions agreed at CB; see CB minutes.

7. **Next collaboration meetings:**
   - **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

8. **DONMs:**
   - To be circulated.

9. **AoB**
   None

Summary of actions

- **CW:** obtain costing for minimum viable RF-power programme;
- **CW:** Confirm receipt of costing for the stabilisation of SSD from US.
- **KL/CW:** Consider visit to LBNL to inspect single cavity modules and negotiate the next steps.
- **CW:** make a careful analysis of forces on the SS vessels in preparation for a discussion of bracing them to the PRY.
- **DR:** With Y.Kharadzhov, seek to restart the online meetings.
- **KL:** to seek a meeting between the ARIES coordinator, MB and RT.
- **KL: EC** "RISE" programme requires the merging of several experiments; so it is necessary to consult with ISIS, DIAMOND, DL, to identify the list of projects. Call is December 2016, April 2017 is the deadline.
- **MB:** will contact a colleague in Italy who made a successful bid to RISE to exploit the Riken facility at RAL.
- **KL/MB:** Collaborate on the consideration of a bid to RISE.
- **KL:** Will revisit the MICE contributions to the JINST volume.