

# Magnetic shielding meeting: 2013-03-26: 15:00 GMT

## Venue at RAL: CR4 R1 (phone conference details circulated)

**Present:** CM, JT, HW, JW, KM, PH, PS, CP, MC, JC

### 1. Actions:

- **KL:** MICE ISIS Magnetic field meeting set for 28Mar13; 15:00 GMT  
Proposed agenda now in circulation.
- **PS, MC:** VF consultancy. MC has queried price increase and will get quote date refreshed so order can be placed with realistic time frame. After this MC/CM to place order.

### 2. Magnetic model of MICE Hall:

**PS**

- See slides
- Changing the boundary conditions has a notable effect on the vectors. We see a more believable logical result with a clear dipole field.
- The impact of this is generally a slight reduction in B field.
- See a predicted 1-2G field in the ISIS control rooms at Step IV. Need to look at Step VI too.

### 3. Magnetic model of tracker cryostat

**KM**

- See slides
- Investigation into using Mu-metal inner layers for big can shows this offers less shielding than just using steel as material is pushed into saturation. Holger confirms that this was also his finding when looking at same problem.
- Using thicker localised shielding steel where fields are higher appears beneficial
- Using co-axial air gaps between cans appears beneficial without increasing mass
- Big can investigation now on hold, will only be further developed if a solution can be shown to be physically accommodated on the beamline

### 4. Magnetic model of racks and R9

**MG**

- No report this week.

### 5. Partial return yokes: magnetic analysis and design

**HW**

- No report from HW this week.
- JT will get back to HW with installation clashes and recommendations in next few weeks

### 6. Progress on magnetic measurements and validation of model

**IT/CP**

- See CP Slides
- Presented field maps constructed with ROOT for measurements taken on compressor surface in approximate 10G air field using AFC in R9.
- Will look to compare these to MG R9 model in the future

#### 6.1 Progress on assessment of substation-components

**JW**

- See Excel spread sheet of rough costs & schedule for testing

- Approximate total cost of £42K but could be a lot more as limited experience with the complexity and requirements of such a test system. Difficult to ascertain what exact component tests would be required, what characteristics/failure modes to be measured and for what duration
- What level of confidence would we take away from such an investigation?

## 7. Schedule and plans, discussion

CM

- Requires more clearly defined work breakdown if we are to have a more credible schedule

## 8. DONM:

02Apr13; 15:00 GMT?

Possible break for Easter holidays, watch out for email nearer the time.

## 9. AoB

- None.

## Summary of actions:

- **KL:** Need to decide way forward for substation test/analysis