# Magnetic shielding meeting: 2012-10-24: 15:00 GMT

## Conference Room 4, R1 (phone conference details circulated)

**Present:** PS, JW, KL, HW, AN, JT, MC, AG, CMacW

### 1. Actions:

* **ABr:** Pursue development of test of non-standard lengths of Cryomech hoses   
  Stands.
* **PH:** Simulate Wang situation and compare to the measurements made by LBNL colleagues.  
  Stands.
* **CMacW:** Provide AN with space requirements for tracker test space in R9  
  Done. Plan is now in preparation.
* **AG:** Obtain break down of ferrous material in waveguides and circulate.  
  PS has drawings of amplifiers but needs waveguides. Action stands.

### 2. Status of review of items in Hall and contacts with system owners: LF/MOM

* No report this week.

### 3. Status of magnetic model of MICE Hall: PS

* See slides: [here](Modelling_Update_2012_11_21.pdf)
* Can transfer field from main model to sub-model. Do not yet know how accurately field will be modelled.

### 4. Status reports:

#### Racks behind north wall: TH, IM

* Rack build is progressing. AFC control and power supply racks are being made. When complete that is 4 of 7;

#### Compressors along west wall: JT

* No update this week.

#### ISIS plant room: JT, JW, IM

* Potentially possible to run services outside through a services tunnel. Needs further negotiation with P. Wright et al.
* Three drawings from JW:
  + [First](Step%206%20Alternative%20Room%20-%20Double%20Stack.pdf);
  + [Second](Step%206%20Alternative%20Room%20-%20Triple%20Stack%20pdf.pdf);
  + [Third](Step%206%20-%20Alternative%20Room%20Electrical%20Services.pdf)
* Penetration of services through the shield wall and concrete wall. Require to build a raised floor. Require air conditioning, cooling water. Perhaps need forced-air cooling. Power services proposal is to take from MICE sub-station;
* Some possibility that some compressors can be accommodated in the new room.
* Need now to ensure that the geometry of the room is properly reflected in the drawings.
* Need to make sure the heat is removed from the room properly.
* Need raised floor for the racks.
* Steel pipes running through rack room 2 would need to be moved.

### 5. Discussion of options:

#### On the mezzanine level to the north east;

**Back-up scenario at the moment;**

#### Partial return yokes: HW

* Transverse horizontal magnetic forces around 0.4 T; vertical forces smaller. Longitudinal forces small.
* Longitudinal gaps in the shield do not appear to have a big effect.

#### Igloo:

Closure of ends of shield wall.

**On hold for the moment.**

### 6. Consideration of shielding for tracker: PS, MC

* No report this week.

### 7. DONM:

28Nov12; 15:00 GMT

### 8. AoB

* JT:
  + Service routing through corridor behind the LH2 room? This is a problem because there is too little room given the present cables that are already installed. In addition, two other systems need to be installed and service routes are already planned.
  + What is the compressor-hose route to Hall? Down to discussion with JT, IM and JW; most likely through the mound;
* IM:
  + Rack room 2 will be considered in the Step VI configuration.
* JT:
  + AG keen to site compressors in rack-room 2 to save money on the west-wall installation. JT asks whether he should make a costing of the west-wall option. We agreed that a costing would be valuable as it may feed into the decision.
* CMacW:
  + In R9 there are compressors over the 5 G line; V. Bayliss will model this situation using the various modelling scenarios. Then we measure when the magnet is energised.
* ***Agreed:***
  + Hall probes should be installed and read out during SS and FC energising. Action IM.

## Summary of actions:

* **ABr:** Pursue development of test of non-standard lengths of Cryomech hoses
* **PH:** Simulate Wang situation and compare to the measurements made by LBNL colleagues.
* **IM:** Liaise to ensure that Hall probes are installed and readout during SS and FC energising.