

# 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](#)
- 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](#);
  - [Second](#);
  - [Third](#)
- 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:

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## 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.