***Magnetic shielding meeting: 2012-09-19: 15:00 BST***

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

**Present: RP, KL, CMacW, LF, IM, JW, AG, JC, PH, HW, AB, PS**

1. **Actions:**

**⁃ AN, KL:** How to add effort (perhaps B.Sheppard);

RP has met with Jim Clarke (JM) to discuss possible help. Could act as reviewers of results and methods. They have many seats of Vector Fields software – could be used to setup a batch run of model scenarios.

**~~⁃ PS, MC:~~** ~~Send transverse forces to mailing list;~~

Done – Results posted to the website.

**⁃ PS, MC~~:~~** ~~Consult C. Rogers on version management scheme;~~

Done

⁃ **ABr:** ~~check with SS team what the experience is;~~

Done – Information from Steve Virostek sent to the list (many times). More information will be taken and sent to the list once the magnet is at stable operating currents.

⁃ **JT:** Pursue clarification of Cryomech basis of estimation of effect of high-pressure hose

length; - Stands

**⁃ CMacW:** Pursue development of test of non-standard lengths of Sumitomo highpressure

hose; - Test can be carried out with 30m hoses for the tracker – needs some work to setup. Chris Pulker can test the Cryomechs.

**⁃ ABr:** Pursue development of test of non-standard lengths of Cryomech hoses

Stands

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

Email sent out to the system owners for the contacts available. CMacW will help Luke with remaining contact details. For the RF system equipment Ian and Chris W will look into what is in the racks. Suggestion for the delicate equipment to be placed at low level inside the rack.

**3. Status of magnetic model of MICE Hall PS**

Quads are in the model and are meshing along with the DSA iron shielding wall, although the meshing around the DSA area is not high. All of the model files are now in a file repository - <https://launchpad.net/micehalloperaproject>. The floor web structure is in the model but 100mm shifted out of actual position. Data for the West wall, EMR and material in the trench required for inclusion into the model. LInac wall (North side) information is required for inclusion into the model – may be large amount of steel. **(A)**LF and CMacW will help PS to find the information of the construction of the LINAC wall. **(A)**PS will compile a document setting out the analysis required for various scenarios of equipment positions and inclusion in the hall.

**4.** **Status reports:**

⁃ **Racks behind north wall: TH, IM**

Verification of the fields in the area required, analysis in progress but additional information required – Linac area wall etc. **(A)**MC to re-run model with aluminium racks and **(A)**IM and JW to send details of more accurate masses within the racks. Question raised as to the effect of one side of the analysis cube being open – MC to comment on the effect to the results.

**⁃ Compressors along west wall: JT**

The masses and locations for each of the compressors have been sent to MC for inclusion into the model for the west wall.

**⁃ ISIS plant room: KL**

ISIS re-iterate that the area is required for storage. A question of how much space is actually required for MICE. KL will setup meetings with ISIS management to discuss options and direction.

**5. Discussion of options:**

⁃ **On the mezzanine level to the north east;**

Back-up scenario at the moment;

**⁃ Partial return yokes: HW**

Looking into getting real data, **(A)** JT to send the model to HW or into a repository of models / files. Approximate cost for the shielding $680k, the Chinese are looking into the manufacture and delivery. There may be some design effort that Brook haven could provide.

**⁃ Igloo:**

Closure of ends of shield wall.

On hold for the moment.

**6. Consideration of shielding for tracker racks etc. PS, MC**

Tracker and vac control racks to be looked into, model scenarios for maximum distance way and shielding to be built and run. Upstream tracker rack can be pushed toward the Q7 supply but only to a maximum of 9.8m. There is a concern that the amount of shielding for the downstream tracker rack may cause an effect on the beam. Vac control rack can be pushed toward the west wall to reduce the field effect.

**7. List of specific items to check PS**

⁃ ***LH2 delivery systems***

***⁃ Q9 power supply***

***⁃ HV rack***

⁃ ***Control rack for compressors, vacuum etc.***

⁃ ***Vacuum pumps***

***⁃ Substation***

***⁃ Equipment on the roof***

**8. AoB**

***Summary of actions:***

**⁃ AN,KL:** How to add effort

⁃ **JT:** Pursue clarification of Cryomech basis of estimation of effect of high-pressure hose

length

**⁃ CMacW:** Pursue development of test of non-standard lengths of Sumitomo high pressure

hose;

**⁃ ABr:** Pursue development of test of non-standard lengths of Cryomech hoses

* **LF, CMacW :** Collect information regarding the design of the LINAC wall (North side of hall)
* **PS** : Compile document listing model / analysis scenarios required.
* **MC** : Re-run the model for the North wall RF area with aluminium racks
* **JW, IM** : Send more detailed information for masses in the North racks
* **JT** : Send hall models to HW