FETS Meeting:

RAL, R2, CR6 – 25th September 2013

Present: J. Pozimski, A. Letchford, P. Savage, M. Dudman, S. Lawrie, S. Alsari, M. Clarke-Gayther, S. Jolly, J. Back, P. Posocco,

Apologies: R. D'Arcy, C. Gabor, G. Boorman, A. Bosco, K. Kruchinin, C. Plostinar, S. Gibson, M. Aslaninejad, D. Faircloth,

Circulation: All

Next meeting date: 20th November 2013 – RAL

Administration

1. A FETS review is due. It is thought an assembled review panel will be shown around FETS with individuals responsible for work packages asked to give updates and or presentations.
2. S. Jolly again asked everyone to update the FETS contact list.
3. The conference in Oxford last week had some good poster sessions and ESS gave some good presentations. However it was thought some of the content of the talks were quite harsh.

Finances

1. Capital spending will not be allocated to FETS by ISIS. This money will however still be available on another project number.
2. Money for Quads and shielding should be allocated for this financial year.
3. RF amplifiers could be purchased with scope for an increase in power if necessary.
4. Everyone was again asked to consider their spending requests for single items under 10K, to ensure that a last minute panic spend does not occur at the end of the financial year.
5. A. Letchford proposed purchasing new x-ray equipment for the RFQ measurements. It was agreed that this could be purchased at a cost of £6K for the complete system.

MOU

1. The MOU is in the hands of the lawyers. Some changes have been requested due to the fact that FETS is not a legal entity and therefore who will be required to sign the agreement.

Ion Source and LEBT (S.Lawrie / J.Back)

1. S. Lawrie and C. Gabor attended the conference in Chiba, Tokyo during which S. Lawrie gave a presentation on H- Ion sources at ISIS. It raised the question on the reliance of positioning of the beam. Beam position is relevant to beam pipe and un-steered with all solenoids on.

2. J. Back gave a presentation showing the data that led up to the beam location given by S. Lawrie. It showed the rotation of the beam (radius of gyration) for S1, S2, and S3 and beam position with various combinations of S1, S2, S3 and dipoles with varying currents.
3. Data was compared with GPT results which noted that there are seven settings which have beam on axis. In reality some standard settings will be found which will be enhanced by tuning.
4. A. Letchford commented that the 3D maps from ESS showed the field was twisted in the solenoids. It may be due to the pancake coils fields not being aligned to the geometric centre of the solenoids.
5. P. Posocco showed some results from CERN with pencil beam and found there may be the same issue with their solenoids.

RFQ (P. Savage)

1. Section one is ready for delivery from NAB to RAL for inspection on the 26th September 2013. It will be checked as an assembly for alignment before being dis-assembled so individual sections can be inspected. Re-assembly will then check for alignment and repeatability. A decision will then have to be made when to finish machining.
2. It has come to light that the clean tent is required in January for approximately three months. A decision should be made at the December meeting what FETS requirements are for the clean tent and its availability.

RF / Shielding (M. Dudman)

1. M. Dudman to speak to S. Alsari to confirm the ordering of RF components.
2. The internal roof height was discussed. Depending on the roof shielding design the internal height will be either 3000mm or 2695mm.
3. M. Dudman said he would model some other configurations to reconfigure the labyrinth and the footprint of the shielding to increase the internal size.
4. Layout to include possible channels cut into floor for RF and other cable routes.

MEBT

1. There was a discussion on the comparison of the quantity of partially chopped beam and the money spent on RF power supplies.
2. M. Clarke-Gather is working on the strip line design. The micro strip option is not viable due to pulse distortion therefore this design will therefore not be taken any further.
3. There will be un-chopped beam at both 1.8ns and 2ns.
4. It was suggested that three 8KW power supplies, at a cost of £23K each, be bought.
5. S. Lawrie informed the group of both small and large bore quad types. He listed the specs for each type and said would get further quotes using different configurations of power output i.e. if 2 x 220A and 1 x 180A are required how much will it cost to purchase 3 x 220A. The aim will be to make a decision at the next meeting.

Beam Diagnostic (S. Jolly)

1. There was a meeting with CERN on the 24th September 2013 during which it emerged that CERN was no further forward with the MOU than FETS. However they said they were happy to proceed with testing.
2. There are spare 60mm BPM's but not 72mm BPM's. CERN have assumed that BPM's will be tested at RHUL as they have no time to test or give guidance. S. Jolly and R. Darcy have been invited to visit CERN to do some testing prior to R. Darcy's move to Fermi lab in November. J. Pozimski expressed his preference of having the testing done at RHUL where the equipment is available, but noted that this would have to fit in with G. Boormans plans. A 60mm button has been ordered by CERN for use in tests.
3. A timescale of one year for delivery of the diagnostic component on FETS was discussed. This would coincide with installation of the MEBT components.

Actions:

1. Everybody to ensure their name is added to the Gmail list.
2. Everybody should consider their spending requests.
3. M. Dudman to set up meeting with S. Alsari to discuss RF components order.
4. M. Dudman / P. Savage to arrange transport of RFQ and notify D. Wilsher.
5. M. Dudman to model other configurations of the shielding.
6. S. Lawrie to progress quad quotes.