

FETS Meeting: 2nd July 2014

Warwick University Physics Department 5th Floor, Room 523

Present: J. Pozimski, P. Savage, M. Dudman, M. Aslaninejad, J. Back, S. Gibson, D. Faircloth A. Kurup, C. Plostinar, A. Letchford (Via video link)

Apologies: P. Posocco, G. Boorman, S. Jolly, J. Taylor, R. Edgecock, A. Bosco, S. Lawrie, S. Alsari, K. Kruchinin, M. Clarke-Gayther

Circulation: FETS Webpage

Next meeting date: 20th August 2014 – RAL

A minutes silence was observed at the start of the meeting in remembrance to C. Gabor. A collection will be organised for those who wish to contribute.

Administration

1. Any spend requirements for this financial year should be requested to ensure application for extra funding is kept to a minimum.
2. A meeting was held with C. Jamieson to discuss the application for extra time / funding. It is thought an extra one and a half years will be applied for.
3. Some FETS staff have increased their hours on the project whilst others have seen a decrease in hours.
4. Work package holders should be consulted with regards to time allocation on FETS during the extension period.
5. A board meeting before the next FETS meeting will be used to finalise the extension proposal, prior to its submission.
6. J. Pozimski will circulate the findings from the last OsC meeting. Generally the OsC were happy with the technical side of FETS but improvements should be made with the project management.
7. It may be possible to add a project manager to the extension proposal, although this will incur extra funding which the OsC may not agree to.
8. A lockable cupboard for storage of radiation badges should be purchased and ideally placed in the kitchen area in R8.
9. The extra funding and funding period will at some stage have to align with the PAA. It may be that opinion is to have a project and not all of FETS under the PAA. If anyone has any ideas on this they should make them known.

MEBT

MQP

1. This is progressing as per schedule.

Engineering (P. Savage)

1. P. Savage gave a presentation outlining the commissioning of the MEBT both offline and during the MEBT build.

2. The large quads will not be delivered before the MEBT commissioning starts. A long drift may provide a solution. At one metre distance the beam should be hitting the 40mm diameter pipe.
3. The design of alignment plates for the quads, vacuum vessels and support frames were shown.
4. At present there are thirteen commissioning steps. It was thought that this could be reduced by incorporating more components at each step. Steps 3, 6, 9, 11 and 12 could be removed.
5. It is not clear what diagnostic set up will be used. Does the size of beam and convergence angle need to be measured. Should a scintillator be used or will it be destroyed by the radiation? Could a faraday cup and magnet, already available be used? A discussion with the ISIS diagnostic section may lead to their Harp being utilised.
6. Material for the manufacture of the re-buncher is being sought. It may be that copper becomes the most viable if the option of using stainless steel proves expensive.

Chopper

1. M. C. Gather's time / effort on the chopper design should be defined.

Beam Diagnostics

BPM

1. A student has started taking measurements. A paper for IPAC has been submitted.
2. The five off RAL design BPM's will be tested at RHUL. Each one should be stamped with an identifiable number to match up with test results.

Laser Diagnostic CERN (A.Karup)

1. J. Pozimski, A. Karup, M. Aslaninejad, S. Gibson and K. Kruchinin had a meeting at RAL to discuss the laser diagnostics through the dipole magnet and into the dump.
2. The dipole field maps are to be updated.
3. A. Karup will run full simulations.
4. D. Faircloth and M. Aslaninejad will discuss the translation of the model for software application. K. Kruchinin will review the results.

RFQ (P. Savage)

1. Preparations should be done for the low power RF test.
2. RFQ section two is complete. P. Savage will visit NAB on the 3rd June to check progress. The following week should see inspection commence.
3. S. Gibson informed the group that C. Nedd, a summer student at RHUL will be working on the bead pull. A possible visit to RAL to work on RFQ section one may be possible. S. Gibson asked for the hole pitch and size on the CMM machine in order for the bead pull frame to be bolted down.
4. NAB is asking for the invoice to be paid. A. Letchford noted that machining is not complete therefore payment should not be made.

Ion Source and LEBT (A. Letchford)

1. A. Letchford gave a presentation showing the latest simulations. Previous simulation showed too strong focussing in the LEBT prior to solenoid three. It shows with confidence that the beam can be focused and positioned for entry into the RFQ.
2. Clearly the current settings are not correct and have therefore been changed using 245A.
3. Using the highest permissible current offers less scope. Using simulations at lower current would improve this.
4. A large beam is required prior to solenoid three to achieve a strong convergence at the RFQ entrance. A. Letchford has shown that with low current in solenoid one and with solenoid two off the beam is optimised into solenoid three.
5. A. Letchford informed the group that he will be on leave for two weeks at the end of July.

RF (S. Alsari, M. Dudman)

1. The RF coupler length inside cavity has been confirmed by A. Letchford. This should be confirmed in P. Savages latest model of the RFQ section one.
2. The RF power supply tests are now complete. The ESS dummy load can now be relocated and connected to Circulator for full power tests.
3. The power sockets will be installed by A. Nobbs and the water supply for the second dummy load will be piggy backed off of the RAL one. (Confirmed by D. Couchman).
4. Imperial college workshop may be able to help with the manufacture and installation of a waveguide support frame.

Shielding / Infrastructure / RF (M. Dudman, A. Letchford, S. Alsari)

1. The order for three extra blocks has been received and delivery is set for the start of August.
2. The build date is scheduled for the first week of August. However with key people on annual leave this may be slightly delayed to ensure that errors are not made.
3. R8 has been cleared to enable to erection of a mobile crane.

AOB - None

Actions:

1. M. Dudman to look installing a cabinet for radiation badges.
2. P. Savage to revise the MEBT commissioning order.
3. S. Gibson / G. Boorman to arrange testing of BPM's.
4. P. Savage to visit NAB to review RFQ section two's progress.
5. D. Faircloth and M. Aslaninejad to arrange the translation of the model.
6. P. Savage to obtain CMM details for S. Gibson.
7. M. Dudman / P. Savage to confirm coupler / RFQ CAD models assembly.
8. M. Dudman / P. Savage to arrange relocation and assembly of ESS dummy load.