FETS Meeting: 14th January 2015

Imperial College, Blackett Lab, Room 741

Present: A. Letchford, J. Pozimski, M. Dudman, S. Lawrie, M. Aslaninejad, D. Faircloth S. Alsari, P. Wise, J. Back, A. Bosco

Apologies: P. Savage, P. Posocco, G. Boorman, J. Taylor, K. Kruchinin, T. Davenne, S. Gibson, A. Kurup, M. Clarke-Gayther, R. Edgecock, C. Plostinar, S. Jolly

Circulation: FETS Webpage

Next meeting date: 11th February 2015 – RAL CR6 R2

Administration

Finances

1. Everyone was asked for their funding requirements on the project.
2. 60K worth of components has already been identified.
3. Issues have been raised with E.S.S.O. regarding their work package specification and costs. These need to be defined.
4. If additional funding is required FETS may ask for it over two years and not the proposed one and half years.

RFQ (P. Savage)

1. Inspection of RFQ section two at RAL has identified a new error in the form of a bow in the vane tips. This error is present in the minor vanes only. It was not noticed in the first inspection due to shorter measurements being taken.
2. The error of 160 microns cannot be tuned out. It is also present on the external datum pads indicating that whole section is bowed. Unfortunately the major vane datum pad was used in the inspection which is correct therefore the error was not initially recognised.
3. Section one has also been found to have the same error although not as large at 90 microns.
4. At present the options are to either re-machine the pads and then the vanes, or clamp the section down onto slip gauges and re-machine.
5. Further checks and trials will take place at NAB in the coming weeks before re-machining can commence.
6. Stress relieving by heat was not thought to be a contributory factor in the errors found.

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

1. M. Dudman gave a progress update on the shielding build / design.
2. There are some block tangs that need to be removed. This will create noise / dust and will therefore be done as soon as possible if the budget allows.
3. S. Lawrie enquired about the gap between the shielding roof and the walls.
   M. Dudman explained the dimensions will be set to enable the roof to be installed without fear of interference fits.

4. Internal shielding will still be required and is yet to be designed. P. Wright is currently looking at estimated radiations levels on which the shielding design will be based.
5. M. Dudman explained the current spend on shielding and estimated costs for both the roof and additional shielding requirements.
6. A question was raised if there will be extra costs involved in ordering the MEGA components when the exact measurements are known. S. Alsari confirmed that the costs are already included in the recent orders.

Laser / laser Room (M. Dudman and A. Bossco)

1. A. Bosco was asked to look at the estimated costs in setting up the laser room.
2. The documentation will need updating with input from RHUL and D. Francis at RAL, prior to obtaining the laser rooms approval.
3. It was unclear if the air conditioning in the laser room is working. This needs to be checked.
4. There appears to be dust getting into the laser room. This should be investigated.
5. A. Letchford is now the Laser Responsible Officer for FETS.
6. J. Pozimski asked A. Bosco to liase with S. Gibson to estimate the laser spending requirements.

General Spending (J. Pozimski)

1. J. Pozimski informed the group that he would approach C. Prior in ASTeC to discuss if they could offer funding to enable the MEBT frames and vacuum manifold to be purchased.

Proposal

1. The additional costs identified will be added to the extension proposal.
2. It was thought that A. Letchford and J. Pozimski would visit Swindon during the week beginning 19th January 2015 to discuss the proposal.
3. A contingency plan will be considered with the options of 70%, 50% and 30% being evaluated. At this stage 30% seems unrealistic and 70% would mean the projects length increasing.
4. If the proposal is extended over two years as opposed to the original one and a half years, the funding will be split £130k in year one and 30K in year two.

MEBT

Rebunchers (P. Savage)

1. NTE are machining the components.
2. The delivery date is set for the 18th April 2015 which fall's outside the end of the financial year. A change of the manufacturing plan has been requested by NTE to progress all three cavities at the same time. This will reduce the lead time to a delivery date of the end of March 2015. The only issue with this is the critical gap dimension and if an error is found it will be on all three. There is provision however to remove this error by re-machining certain faces. P. Wise expressed concern about NTE making the delivery date from past experiences on other projects.

3. 4K in the new budget remains to cover a part order, if required, in the form of separating the plating process.
4. The material is being delivered to NTE on the 22nd January 2015.
5. A day of A. Letchford's and J. Pozimski's time will be required at the point of inspection, to verify the results.

Chopper Beam Dump (P. Savage)

1. Script in Python to look at GPT data.
2. The skin depth (50–60 microns) will be treated as shell elements on a surface.

Beam Dump Vessels

1. To keep the wall thickness thin the vessels will be made from St/ St.
2. The vessel supports, designed by P. Savage, will be made at Imperial College's workshop.

Laser wire measurements

1. Results were obtained using the damaged diamond scintillator. One or two papers will be published based on these results.
2. The next tests will be with a faraday cup at 50 MeV.
3. The laser will return from CERN when the laser room has been set up and signed off.

MQP

1. The Quads have been delivered and are currently in R8.
2. The toroids have been manufactured and calibrated.

AOB

1. None

Actions:

1. Everyone to consider their spend requirements on FETS.
2. E.S.S.O. work package, specification and costs need to be defined.
3. P. Savage to co-ordinate further checks and trials at NAB.
4. M. Dudman to arrange removal of shielding block tangs.
5. A. Bosco was asked to look at the estimated costs in setting up the laser / laser room.
6. Laser room documentation will need updating with input from RHUL and D. Francis at RAL.
7. The air conditioning in the laser room needs to be checked / serviced.
8. The ingress of dust into the laser room should be investigated.
9. J. Pozimski to approach C. Prior in ASTeC ref available funds.
10. A. Letchford and J. Pozimski to visit Swindon to discuss the extension proposal.