FETS Meeting:

RAL, R3, CR11 – 19th March 2014

Present: J. Pozimski, A. Letchford, P. Savage, M. Dudman, S. Lawrie, S. Gibson, D. Faircloth, M. Clarke-Gayther, S. Alsari, C. Gabor, M. Aslaninejad, A. Kurup, J. Back,

Apologies: G. Boorman, S. Jolly, A. Bosco, P. Posocco, C. Plostinar, K. Kruchinin,

Circulation: All

Next meeting date: 16th April 2014 – UCL

Administration

1. If all spend is accounted for, for financial year end 2013, the budget is clearly defined for the next year.
2. The RF power supplies delivery should be confirmed by end of March. Invoice should not be sent with shipment but sent to finances.
3. Everyone was asked to send their claims for FETS in time to be included in this year's budget. Residual costs should also be thought of.
4. A detailed Gantt chart is being produced. Would all work package holders send M. Dudman an update of the progress so it can be added to the chart?
5. Door swipe access is being added to the front and rear door in R8 with the side door also being reinstated.
6. Everyone should ensure they have the correct radiation badge when accessing R8.
7. Everyone was asked to state their wish to attend conferences, if they have one, to aid budget allocation. A justification should be made for the reasons attendance is required.

Ion Source and LEBT (D. Faircloth, S. Lawrie, C. Gabor)

1. S. Lawrie has been testing the temperature crates.
2. D. Faircloth and C. Gabor have been trying to get FETS running. The plan is to do emittance scans. The gap lengths have been evaluated.
3. The Robust alignment pins will be installed and the alignment checked.
4. New set of experiments with new power supply will be completed.
5. M. Perkins has installed a remote button.
6. There was a discussion of a possible date the ION source could be taken off line for cage modifications. J. Back requires some more measurements to attain the optimum settings. These should be complete by the end of May 2014.
7. The aim is to move from development to operational by the end of June 2014.
8. The positioning of control cabinets to enable the installation of the shielding will be done. May use Walker Brother's contractors to do the wiring otherwise it will be M. Perkins.

Shielding / Infrastructure / RF (M. Dudman)

1. Two quote's received for extra shielding blocks, waiting for a quote from NELCO.
2. It has been arranged for A. Hooper to do a survey of the klystron area to layout position of circulator support frame.
3. During a meeting with P. Wright the layout design was agreed. Extra shielding maybe required over the first section of ION source cage. Air extraction will be needed and the cable runs in the floor will need modifications to meet requirements.
4. It's anticipated to do a part build to see how the shielding blocks sit together.
5. R. Lambert to be consulted on second exit.
6. P. Masterson has been consulted on disconnection and reconnection of services to klystron before and after move.
7. Extra permanent water feed to be installed for circulator. D. Couchman to be consulted for confirmation of water flow and specification of flow gauges and running procedure.
8. Frame to be quoted and ordered with estimated move date during first two weeks in May 2014 during shutdown.
9. ESS dummy load to be installed after move prior to full power klystron tests
10. Unclear on effort required to move klystron.
11. Coupler design progressed, confirmation with A. Letchford required before making and testing window. Drawings to be detailed if design approved and quotes obtained.

Beam Diagnostics

BPM test rig (S. Gibson / S. Jolly)

1. G. Boorman has simplified the wire rig. S. Gibson gave a presentation explaining that wire moves whilst BPM is fixed to the support frame.
2. Possible offset with the BPM and KF flange therefore needs to be calibrated.
3. A question of what accuracy needs to be achieved. It was decided 100 microns was the tolerance ensuring the electrical centre of the BPM is centralised with the beam.
4. A reference for the electrical centre to an external datum point is required.
5. M. Dudman is to progress the button BPM design into team centre via a contractor.
6. S. Gibson gave a presentation on behalf G. Boorman on how the CERN strip line and button BPM's will be tested. It is hoped a summer student based at RHUL will work on the project.
7. S. Gibson gave an update on the work on the laser at CERN.
    - Beam current data and emittance measurements.
    - Tests of charged and linear amplifier on diamond detector.
    - Emmitance scans taken at different quad settings.
    - Experimented with 5 x laser rep rate.
    - Comparisons of all analysis will be done to give clarity to results.
    - Significant results obtained so far.
    - Next run in May / June 2014.

RF (S. Alsari)

1. S. Alsari gave a presentation on the configuration and connection of the parts received from MEGA. He gave details of the low power RF tests at RAL inspection on the 26th February 2014.
2. Payment for purchased components are being processed today 19th March 2014, however procurement will need invoice from the company on Monday 24th March 2014 for payment to clear this financial year.
3. The RFQ LLRF system from ESS Bilbao has been tested and is ready to use. This will measure the RF amplitude, phase and frequency.
4. LLRF system needs to be designed for the choppers. The estimated spend is £4.5K.

RFQ (P. Savage)

1. The machining of two major vanes from section two which is +2.5mm up on tolerance will be completed then inspected at RAL. The cutter will be in a vertical position and coolant will be used.
2. If this is inspected and passed sections two, three and four will be progressed.
3. P. Savage to look at CAD model of section one to confirm that a 0.4mm cut will clean up waveform ready to be re-machined. The impact on the rest of the vane should also investigated.
4. RFQ coupler design to be verified with A. Letchford.
5. A. Letchford showed some pictures of the beam line, RFQ, and RF delivery he took during a recent visit to JPARC.
6. A. Letchford indicated that he would be present in the next week but would be in Japan the following week.

MEBT

1. M. Aslaninejad is preparing a document showing the work on the MEBT during the last two years. The documents will be loaded onto the website.

MQP (S. Lawrie)

1. Project managers have been allocated at Danfisik and the first payment is due in May 2014.
2. First prototype due in June 2014 with completion of order in November 2014.
3. S. Lawrie is to check if there is a need for verifying field map data from the manufacturer.

Engineering (P. Savage)

1. The cavity nose region is being looked at with a view to machining a ‘non round’ profile. The design mods will need to be checked by A. Letchford to ensure beam dynamics are not changed.
2. A document is being produced for the dump specification to be given to C. Densham.
3. The vacuum vessel could possibly go to a manufacturer for design / manufacture.

Chopper (M. C. Gayther)

1. M. C. Gayther is to look at material / manufacture costs for both designs.
2. The designs should be presented at the next OSC meeting on 11th June.
3. M. C. Gayther is looking into his options on either retiring or staying on FETS on a part time basis. His current contract expires on the 31st May 2014 and a two week break is required if a new contract is issued. M. C. Gayther still has annual leave to take which will impact on his effort available.

AOB

1. The conferences during 2014 were discussed. People were asked to let J. Pozimski know if they wanted to attend the costs involved and who would be funding the trip.

Actions:

1. Everyone to submit their claims for end of financial year.
2. M. Dudman to produce detailed Gantt chart for FETS.
3. Everyone should obtain a film badge before entering R8.
4. M. Dudman to arrange survey of R8.
5. M. Dudman is to progress the button BPM design into team centre via a contractor.
6. S. Alsari to progress payment of RF power supplies.
7. P. Savage to progress test machining of RFQ.
8. P. Savage to put together a beam dump document for C. Densham.