

Engineering schedule #14

FETS rebunching cavities

Updated: P.Savage, 22nd Mar 2013

Table 14.1: Rebunching cavity manufacture

#	Task	Duration (weeks)	Running total
14.1.1	Create design specification for cavity	2	2
14.1.2	Frequency design in COMSOL	4	6
14.1.3	Finalise particle tracking in GPT	8	14
14.1.4	Complete engineering design	4*	18
14.1.5	Vacuum loading calculations	1	19
14.1.6	Thermal expansion calculations	1	20
14.1.7	Approve datum / alignment system	1	21
14.1.8	Create engineering drawings	4	25
14.1.9	Find suitable manufacturers	4	29
14.1.10	Request quotes for manufacture	4	33
14.1.11	Manufacture	16	49
14.1.12	Deliver	1	50
14.1.13	Vacuum Test	1	51
14.1.14	Inspect / CMM?	1	52
14.1.15	Install on FETS and align	1	53
Total		53	

- The engineering design is already in progress, the concept design is complete.

Table 14.2: Rebunching cavity support / alignment system

#	Task	Duration (weeks)	Running total
14.2.1	Create specification for alignment	2	2
14.2.2	Design support framework	3	5
14.2.3	Loading calculations	1	6
14.2.4	Create engineering drawings	1	7

14.2.5	Find suitable manufacturers	4	11
14.2.6	Request quotes for manufacture	4	15
14.2.7	Manufacture	2*	17
14.2.8	Deliver	1	18
Total		18	

- It may be that all MEBT component support structures are designed and manufactured as one job batch.

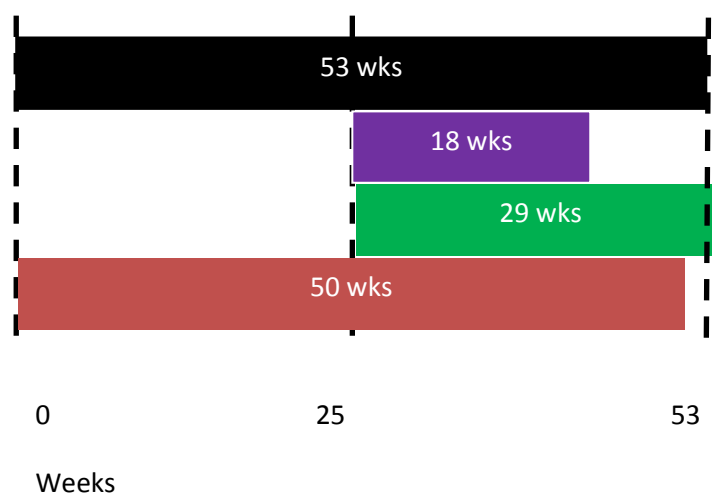
Table 14.3: Rebunching cavity ancillaries

#	Task	Duration (weeks)	Running total
14.3.1	Tuner frequency studies	4	4
14.3.2	Tuner engineering design	2*	6
14.3.3	Tuner engineering drawings	1	7
14.3.4	Tuner manufacture – in-house (x3)	2.5	9.5
14.3.5	Tuner drive purchasing and delivery	0	9.5
14.3.6	Coupler RF design	4	13.5
14.3.7	Coupler engineering design	3	16.5
14.3.8	Coupler engineering drawings	1.5	18
14.3.9	Coupler manufacture – in-house (x3)	4	22
14.3.10	Pick-up engineering design	1	23
14.3.11	Pick-up engineering drawings	1	24
14.3.12	Pick-up manufacture – in-house (x3)	1	25
14.3.13	Flange adaptor design *	1	26
14.3.14	Flange adaptor manufacture (x12)	2	28
14.3.15	Purchasing sundries: O rings, bolts, fittings	1	29
Total		29	

- If we can inherit design from RFQ

Table 14.4: Amplifier purchase

#	Task	Duration (weeks)	Running total
14.4.1	Calculate cavity voltages	4	4
14.4.2	Meet suppliers	8	12
14.4.3	Create specification	4	16
14.4.4	Order	4	20
14.4.5	Manufacture	26	46
14.4.6	Deliver	2	48
14.4.7	Test?	1	49
14.4.8	Install	1	50
Total		50	



Notes:

The first meeting with an amplifier manufacturer is set for Wednesday 27th March 2013.