CALICE - Response to Science Committee

CALICE-UK groups

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1 Background

Options for the CALICE proposal for linear collider (ILC) calorimetry studies, covering FY05/06 to FY08/09, were considered by Science Committee at the meeting in April. The proposal consists of five workpackages (WP). WP1 is for completion of the current seedcorn programme and was approved by the PPRP from their seedcorn funds. The other four workpackages are therefore the ones for which we are now asking for approval.

Following the Science Committee meeting, we were advised that we should attempt to fit the programme of these four workpackages into a total new money cost of £1350k (including working allowance and contingency) within the first three years, i.e. FY05/06 to FY07/08, and a total cost to PPARC in line with the original proposal to PPRP; for these four workpackages, this was £2512k (including working allowance and contingency). This document outlines how we would propose to achieve this.

2 Reoptimised programme

We presented several options to Science Committee for consideration and the above constraints were based on an option in which WP2 (DAQ), WP4 (thermal and mechanical) and WP5 (physics and simulation) were delayed by six months, while WP3 (MAPS) was delayed by one year.

However, we have now carefully looked at all options and propose a solution which minimises the impacts of the financial constraints. The overall programme would be better if the high priority workpackage, WP3, was not delayed so much. Hence, we have decided to delay some lower priority work in WP4 and cut its equipment budget to allow funds to be transfered to WP3 and bring it forward to only a nine month delay. (We cannot realistically bring it any further forward and still remain within the Science Committee constraints.) This has reduced the scope of WP4 and in addition it now has a delay of more than a year compared with the original proposal.

This results in a new money profile (excluding working allowance and contingency) for the four FYs as shown in the table below. The total in the first three FYs for these workpackages is £1033k.

Workpackage	FY05/06	FY06/07	FY07/08	FY08/09	Total
WP2	21	82	130	75	308
WP3	31	153	341	375	900
WP4	1	4	5	23	33
WP5	22	83	160	68	333
Total	75	322	636	541	1574

Table 1: New money costs in £k.

The working allowance was originally set at £176k and was dominated by uncertainties on staff cost (particularly the new posts) and around 10% on equipment, consumables and travel. Due to the reduction in the programme, all these items have been somewhat reduced. Hence, the working allowance required is now slightly lower and is estimated to be £166k. The contingency remains unchanged at £152k as the main contributions are unaffected by the programme reduction. The total new money for the first three FYs, including working allowance and contingency, is then £1351k.

The total cost to PPARC of the four workpackages in this reoptimised programme will be £2406k. Including working allowance and contingency, this makes a total of £2724k. This is higher than the original proposal total cost by £212k. However, compared to the original proposal where the workpackages ran for three FYs, the programme is now extended into FY08/09 by another six to twelve months, depending on the workpackage. We consider this is a small incremental cost given these extensions; doing a direct comparison with the three years of the original proposal, the cost of the modified programme is £1930k which reflects the reduction and delay in the programme.

3 Summary

We have reoptimised the CALICE programme to satisfy the Science Committee cost constraints. Within these limits, we believe the proposed programme gives the UK the best chance of getting a leading role in a future ILC calorimeter. We ask that Science Committee now considers this revised programme for approval.