

CROSSRAIL LIMITED

PROCUREMENT SUB-COMMITTEE

SUBJECT: Option C: Target Cost Contractor's Share Proposal
(Pain/Gain)

SPONSOR: [REDACTED]

MEETING: 20 January 2010

Purpose

The purpose of this paper is to request approval of the proposed share profile for use with major works contracts when procured using NEC3 Main Option C target cost contract for major civil works contracts on the Crossrail project.

Recommendation

The following share profile is proposed for use on major civil works contracts procured using target cost contracts.

<i>Share range</i>	<i>Contractor's share percentage</i>
All ranges	50%

The Procurement Sub-Committee is requested to approve the above proposal and re-confirm its previous decision that no fee will be paid above the target in view of the above proposal and noting the comments below on Optimised Contractor Involvement (OCI).

Please refer to the attached paper for further detail.

Background

Following a paper prepared by Crossrail Central considering the principles and options for possible share profiles and share ranges a workshop was held on 21st December 2009 to consider how best to determine the most suitable share profile for major works contracts. There were some guiding principles that were recognised at the workshop. These principles can be summarised as follows:

- The share profile should have the principal objective of motivating the contractor to control cost;
- The share profile should be such that tenderers are motivated to submit realistic tender prices;
- The share profile should ideally be equitable;
- The share profile should not encourage the overly aggressive pursuit of, and the excessive evaluation of, the financial effects of compensation events;
- The share profile should be kept as simple as possible; and
- The share profile should not motivate tenderers to include excessive risk allowances in their tendered target price.

From further discussion and debate with Crossrail Central and consideration of the share profiles being used or considered by other projects this proposal was agreed as the basis upon which PSC approval should be requested.

The proposed share range is also intended to motivate the successful Contractor to pursue early value engineering savings which, under OCI, will allow the Contractor to realise savings on the anticipated final cost without an equivalent adjustment in the target.

Procurement Sub-Committee has previously approved that the Contractor's fee will not be paid on any costs incurred over the target (as adjusted by compensation events) and therefore the Contractor, arguably, will pay a greater share of the total costs above the target. This may attract an adverse reaction for the industry and Procurement Sub-Committee is requested to confirm that decision in view of the proposed share range.

CROSSRAIL LIMITED

Option C: Target Cost Contractor's Share Proposal (Pain/Gain)

Background

Tenders for the first tunnelling contracts are due to be submitted in late March 2010. The use of target contracts for these contracts was recommended in the Procurement Plan for Running Tunnels and Station Tunnels¹ and was approved by CRL.

With target price contracts, although a target price is agreed with the successful contractor at the outset, payments to the contractor are not based on tendered rates and prices for elements of work completed. Instead, payments are based on the costs actually and reasonably incurred by the contractor in carrying out the works. If the contractor has made insufficient allowance in his tendered target price for carrying out the works, the total of the payments made by the Employer of the contractor's actual costs will exceed the tendered target price. The principal commercial feature of a target price contract is the sharing, in pre-determined proportions, of the financial risk between Employer and Contractor. This means that in the event that the final actual cost (inclusive of the contractors overheads and profit) of constructing the works exceeds the final target price, the Employer is required to pay the contractor a proportion of the cost overspend.

To make the financial risk sharing equitable, it should be noted that, in the event of a cost under-run i.e. the final actual cost (inclusive of the contractors overheads and profit) of constructing the works being less than the final target price, the Employer will share in the benefit of the under spend, again in the pre-determined proportions set out in the contract.

The extent of the Employer's financial risk (and by implication the contractor's financial risk) under a target contract – both upside and downside – is determined by what is referred to in this paper as the share profile, sometimes also referred to as the pain/gain share mechanism.

Following a paper prepared by the PDP describing the operation of target contracts, the process for selecting the share profile and consideration of possible share profile options a workshop was held on 21st December 2009 to consider how best to determine the most suitable share profile for major works contracts. The workshop concluded that while there was probably no formula for determining the "perfect" share profile (evidenced by the various share profiles used on other major projects), there were some guiding principles that should be considered when seeking to establish the most appropriate share profile. These principles can be summarised as follows:

- The share profile should have the principal objective of motivating the contractor to control cost;
- The share profile should be such that tenderers are motivated to submit realistic tender prices – if the share profile does not sufficiently motivate the contractor for overspends then tenderers could be tempted to discount their tender prices in order to secure the contract in the knowledge that if they overspend there is no real financial sanction. As a general point, the workshop recognised that if the chosen share profile was to have the desired effect (i.e. motivate the contractor to adopt the desired behaviours) then it was a given that the tendered target price should be realistic. The PSC is also referred to the PSC paper entitled "The Commercial Evaluation of Tenders for Major Works Contracts Procured Using Target Price Forms of Contract" where it is recommended

¹ Section 3.1 of CRL1-PDP-V3-TPL-CRG03-00001 version 1.2

that the commercial evaluation should have as its main objective the award of contracts for a realistic target price;

- The share profile should ideally be equitable i.e. the financial risk should be shared equally to promote collaborative working and a spirit of "we're in this together";
- The share profile should not be such that it encourages the overly aggressive pursuit of compensation events and the excessive evaluation of the financial effects of these;
- Consistent with complying with the other principles, the share profile should be kept as simple as possible;
- The share profile should not be such that it motivates tenderers to include excessive risk allowances in their tender price since this would run contrary to one of the Employer's objectives, namely obtaining value for money. Higher risk premiums are more likely to be included by tenderers where the share profile places the majority of the financial risk with the contractor.

Recognising the competing and conflicting nature of some of these principles at a follow-up meeting held on 22nd December 2009 and following detailed consideration of the issues surrounding share profiles by CRL it was agreed that the consideration of three "preferred" share profile options should be made the subject of a paper to the concluding with a recommended option for which the Procurement Sub-Committee's endorsement would be requested.

Before considering the three share profile options it is necessary to understand the components of a share profile and how they operate in determining the level of financial risk carried respectively by the Employer and contractor.

A share profile has two components, namely the *contractor's share percentage* and the *share range*. The principal component – the *contractor's share percentage* – determines the proportion of any overspend (against the final target price) the contractor has to bear or conversely the proportion of any under spend he enjoys in the event of a cost under run. A share profile with only a single *contractor's share percentage* would be a perfectly valid share profile. If the *contractor's share percentage* was 50% it would simply mean that the contractor (and by implication the Employer) was taking a 50% share in the financial risk that the out-turn cost was less than or greater than the agreed final target price – refer Option 1 below.

Share ranges are introduced when the Employer desires a more sophisticated share profile which varies the parties' financial risk across a range of possible outcomes – refer Options 2 and 3 below. In Option 3, where for example the final target price was agreed at £100m the contractor would only bear 10% of the first £5m of any overspend but thereafter for any overspend greater than £5m would bear 50% of the cost overrun.

One other key point to note when considering the share profile options is that the closer the *contractor's share percentage* is to 100%, the more the target contract takes on the commercial features of a price-based contract under which all of the financial risk is taken by the contractor. Conversely, the closer the *contractor's share percentage* is to 0% the more the target contract takes on the commercial features of a cost reimbursable contract where all of the financial risk is taken by the Employer.

Share Profile Options

The three share profile options considered in this paper are as follows:

Option 1

<i>Share range</i>	<i>Contractor's share percentage</i>
All ranges	50%

Option 2

<i>Share range</i>	<i>Contractor's share percentage</i>
Less than 80%	10%
From 80% to 120%	50%
Greater than 120%	10%

Option 3

<i>Share range</i>	<i>Contractor's share percentage</i>
Less than 80%	25%
From 80% to 100%	50%
From 100% to 105%	10%
Greater than 105%	50%

For the purpose of the illustrations ("models") below, for all share options it is assumed that the *Contractor's Fee* is not paid on that proportion of the Price for Work Done to Date - PWDD (i.e actual cost incurred plus contractor's fee) that exceeds the target price². The effect of this is to effectively increase the contractor's share percentage in an overspend situation by the amount of the tendered fee percentage.

For each share profile option, a model shows the total margin (Fee plus Share) the contractor will earn plotted against a range of final PWDD outcomes for a hypothetical contract where the final target price has been agreed at £120m. The models also demonstrate the impact of a series of possible *fee percentages* ranging from 5% to 12%.

Each of the share profile options are then assessed against the "guiding principles" (refer above) which have been summarised in the Table below and weighted in terms of their importance as measured against the Employer's desire to drive the appropriate behaviour from contractors:

Objective	Weighting	Score	Weighted Score
Contractor motivated to control actual cost	50%		
Tenderers not motivated to submit "discounted" tender price	15%		
Equitable sharing of financial risk	10%		
Contractor not motivated to place disproportionate effort towards increasing the target price	10%		

² Paper P53/09 was presented to PSG on 28 October 2009 and included the proposal that no Fee should be paid to the Contractor after he has exceeded the target price. PSG accepted the proposal.

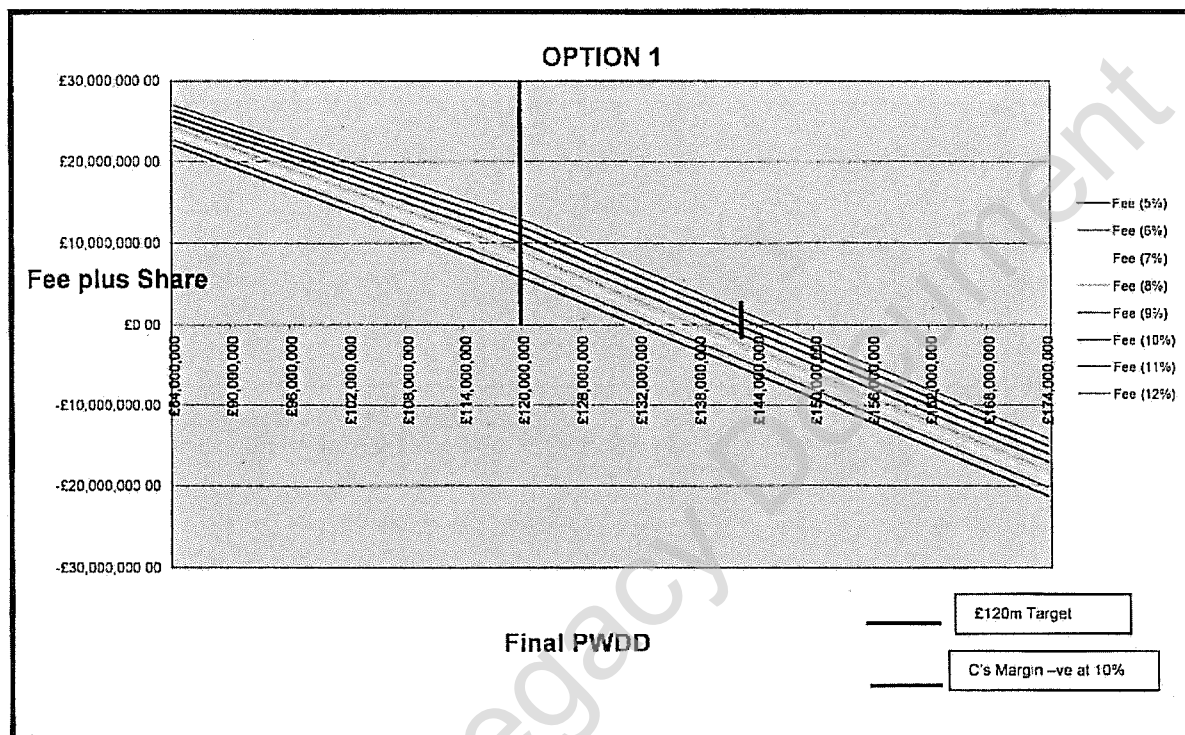
Tenderer discouraged from including excessive risk premiums in tendered target price	10%		
Share profile simple to understand and operate	5%		

Each of the share profile options have been scored between 1 and 5 against how well they achieve the relevant objective as follows:

- 1 very poor alignment with the objective;
- 2 poor alignment with the objective;
- 3 reasonable alignment with objective;
- 4 good alignment with objective; and
- 5 very good alignment with objective.

Option 1

Share range	Contractor's share percentage
All ranges	50%

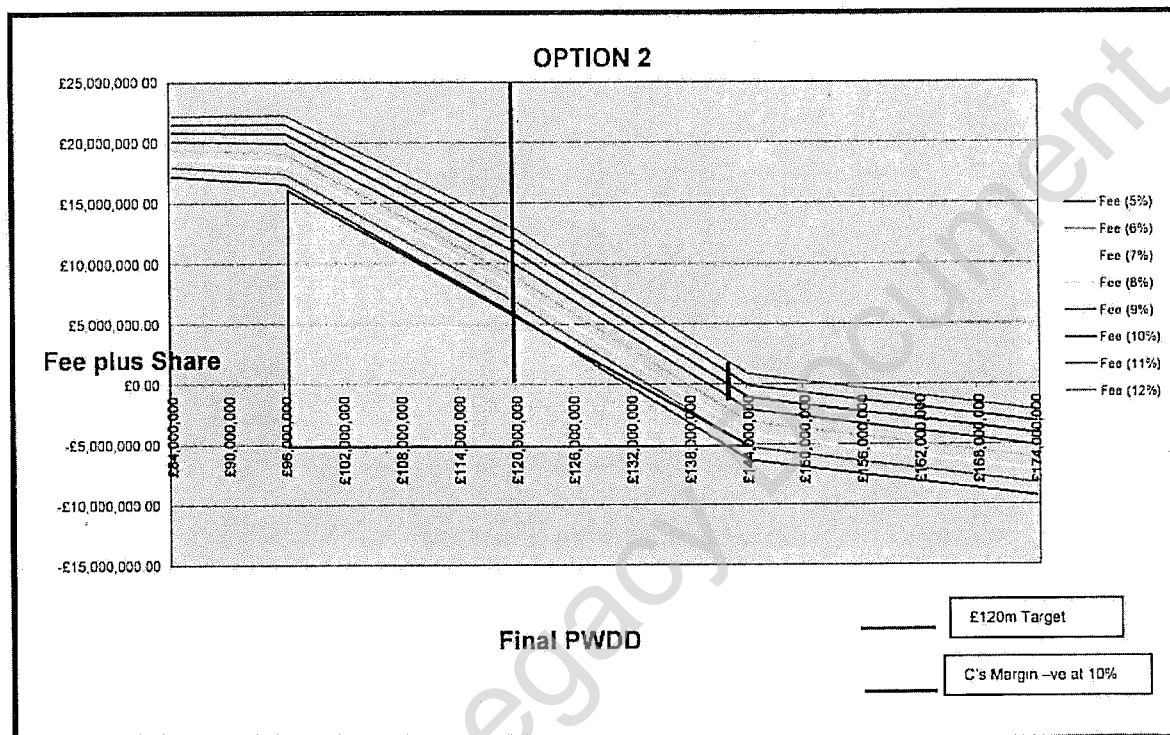


In a cost over-run situation and based on a 10% contractors fee percentage the break-even point i.e. the point at which the contractor has done the work at cost having had any margin earned completely wiped out by the share mechanism is £142m – an overspend of £22m or approximately 18.3% (above the final target price of £120m). For any overspend beyond £142m the contractor will only be paid 50% of the PWDD and therefore will be faced with significant losses.

Objective	Weighting	Score	Weighted Score
Contractor motivated to control actual cost	50%	4	2.00
Tenderers not motivated to submit "discounted" tender price	15%	4	0.60
Equitable sharing of financial risk	10%	5	0.50
Contractor not motivated to place disproportionate effort towards increasing the target price	10%	3	0.30
Tenderer discouraged from including excessive risk premiums in tendered target price	10%	3	0.30
Share profile simple to understand and operate	5%	5	0.25
	Weighted Total		3.95

Option 2

Share range	Contractor's share percentage
Less than 80%	10%
From 80% to 120%	50%
Greater than 120%	10%

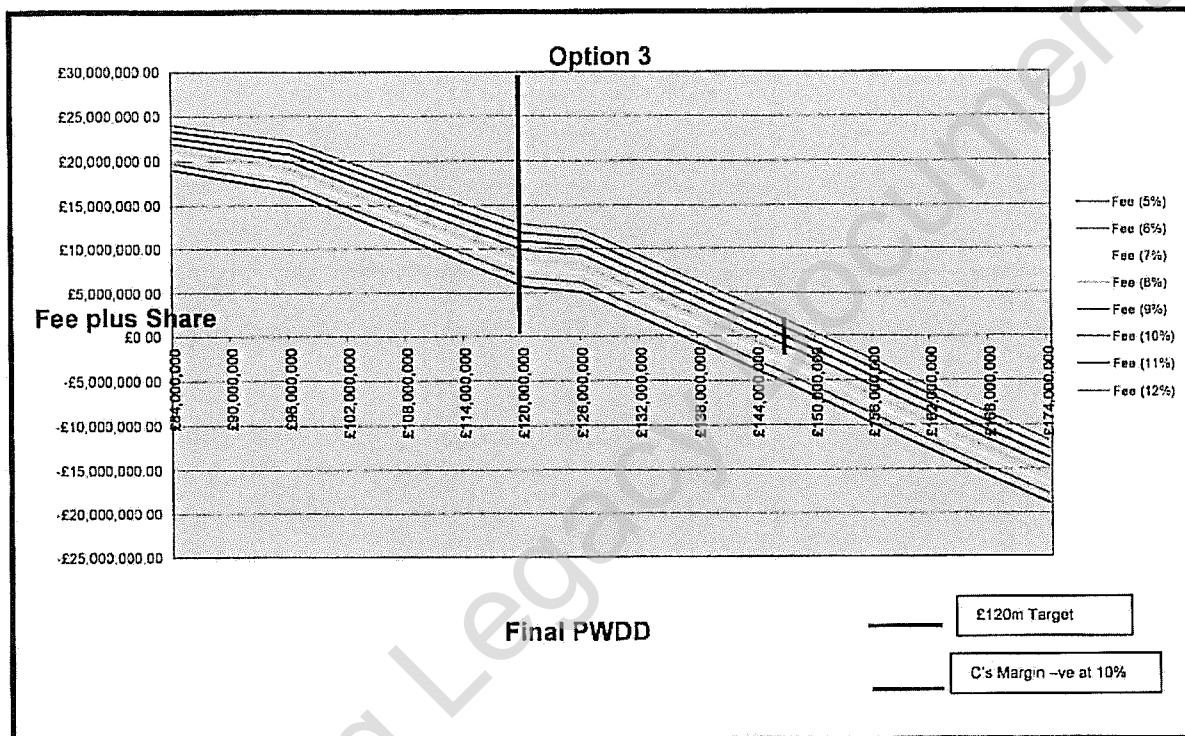


In a cost over-run situation and based on a 10% contractors fee percentage the break-even point i.e. the point at which the contractor has done the work at cost having had any margin earned completely wiped out by the share mechanism is £142m – an overspend of £22m or approximately 18.3% (above the final target price of £120m). For any overspend beyond £144m the contractor will be paid 90% of the PWDD and will therefore beyond this point be effectively doing the work “at cost”.

Objective	Weighting	Score	Weighted Score
Contractor motivated to control actual cost	50%	3	1.50
Tenderers not motivated to submit “discounted” tender price	15%	4	0.60
Equitable sharing of financial risk	10%	5	0.50
Contractor not motivated to place disproportionate effort towards increasing the target price	10%	3	0.30
Tenderer discouraged from including excessive risk premiums in tendered target price	10%	4	0.40
Share profile simple to understand and operate	5%	4	0.20
	Weighted Total		3.50

Option 3

Share range	Contractor's share percentage
Less than 80%	25%
From 80% to 100%	50%
From 100% to 105%	10%
Greater than 105%	50%



In a cost over-run situation and based on a 10% contractors fee percentage the break-even point i.e. the point at which the contractor has done the work at cost having had any margin earned completely wiped out by the share mechanism is between £146m and £147m – an overspend of between £26m and £27m or approximately 22% (above the final target price of £120m). For any overspend beyond £126m the contractor will only be paid 50% of the PWDD and therefore will be faced with significant losses.

Objective	Weighting	Score	Weighted Score
Contractor motivated to control actual cost	50%	3	1.50
Tenderers not motivated to submit "discounted" tender price	15%	2	0.30
Equitable sharing of financial risk	10%	4	0.40
Contractor not motivated to place disproportionate effort towards increasing the target price	10%	4	0.40
Tenderer discouraged from including excessive risk premiums in tendered target price	10%	4	0.40

Share profile simple to understand and operate	5%	3	0.15
	Weighted Total		3.15

Learning Legacy Document

Recommendation

Choosing an appropriate share profile for a target cost contract is not straightforward. While it may be agreed from the Employer's perspective, that the optimal contractor's share profile is one which:

- For a cost-under-run, give the Employer the maximum saving yet still motivate the contractor sufficiently to decrease costs, while not undermining other objectives; and
- For any cost over-run, allocate the maximum percentage to the contractor yet still motivate it to adopt positive rather than adversarial behaviour, again so that other project objectives are met.

Actually determining what the optimal share profile should be is where the difficulty lies. There is no formula that produces the right answer. Indeed, the selection of the "optimal" share profile can be highly subjective, emphasised by the fact that a selection of recent major infrastructure projects have all had different share profiles. What can be agreed is that, in determining the optimal share profile there are some obvious objectives, which if achieved increase the likelihood of promoting the desired behaviour from the contractor.

To avoid the subjectivity surrounding the selection of an optimal share profile, this paper has attempted to identify the objectives, weight them and then rank the three selected share profile options in terms of how well they align with these objectives.

Adopting this approach the recommendation is that share profile Option 1 is selected for major works contracts when procured using target price forms of contract. It is also considered that this Option reduces the likelihood for the "perverse" incentivisation of the contractor in a situation where the actual cost (inclusive of the contractors overheads and profit) exceeds the target price.

Authors

Name:

Telephone Number:

