NOTE FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

Estimates of Consultants' Costs for Capital Works Projects

INTRODUCTION

We have completed a review on whether the standard multipliers for estimating consultants' costs for capital works projects require updating. This note briefs Members on the outcome, and serves also as the Administration's response to questions raised by Members at the Public Works Subcommittee (PWSC) held on 13 November 2002.

PREPARATION OF ESTIMATES FOR CONSULTANTS' COSTS

2. The current methodology for preparing estimates for consultants' costs for capital works projects was introduced in April 1996. It involves the estimation of the cost of professional and technical staff to be provided by consultants in undertaking the consultancies as well as their overhead costs (e.g. office accommodation, fringe benefits and gratuities for staff, the cost of other supporting staff) and any reimbursable items paid for by the consultants as out-of-pocket expenses.

3. For the purpose of estimating the consultants' costs of professional and technical staff, works directors estimate the number of professional and technical staff required to carry out the project as if it were to be done in-house. This involves an assessment of the level of professional and technical expertise required in each case to deliver the service and the time taken by each staff to complete his or her individual tasks. The estimated staff-time input is then translated into estimated staff cost using the Government's Master Pay Scale (MPS) as a benchmark. It should be noted that the actual salary received by staff is a matter of terms of employment between the consultants and the staff they employed, not necessarily linked to the MPS.

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4. The total estimated consultants' cost is calculated by multiplying the estimated staff cost by the relevant multiplier factors to reflect the consultants' overhead costs, and then adding to it the estimated out-of-pocket expenses –

Total estimated consultancy cost	=	Estimated man-month input	x	Relevant MPS salary point(s)	x	Relevant multiplier factor(s)	+	Estimated out-of-pocket expenses

5. We update the multiplier factors from time to time to reflect prevailing market conditions. In January 1999, we adjusted three relevant multipliers as follows –

		Adjustment
(a)	Multiplier for staff employed in the consultant's offices	From 3.0 to 2.4
(b)	Multiplier for staff seconded to work in government offices	From 2.5 to 2.0
(c)	Multiplier for site staff supplied by the consultant	From 2.1 to 1.7

6. For all consultancy assignments that are subject to competitive bidding, the practice is for the Administration to provide in relevant PWSC submissions a breakdown of the consultancy estimates along the template set out in the Enclosure.

REVISIONS TO THE MULTIPLIER FACTORS

7. On the multiplier factor for "staff employed in the consultants' offices", we have compared our estimation of consultants' costs with the actual tendered fees for over 200 winning bids of consultancies awarded since February 1999. While 20% of the bids were higher than the respective estimate, the remaining 80% were lower. On average, the works directors' estimates exceeded the bids by about 24%. This percentage of deviation remains almost the same if we confine the samples to the consultancies awarded in 2002.

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8. On the multiplier factor for "staff seconded to work in government offices", our records indicate that we seldom require consultants to second staff to work in government offices nowadays. We intend to delete the standard multiplier for this category of staff. The estimation of cost for this type of staff will be assessed on a case-by-case basis as occasions arise.

9. On the multiplier for "site staff supplied by the consultant", we have reviewed those projects with the original estimates on site staff cost prepared after February 1999 (using the last prevailing multiplier factors) and with construction works under way. We observe that the PWSC estimates for these projects slightly exceed the up-to-date forecasts on site staff cost by about 5% on average.

10. The difference between the estimates set out in PWSC submissions and the actual award prices for works consultancies are attributable to a combination of factors, including decreased staff salary and decreased overhead costs and profit margins due to increased competition. To bring the multiplier factors in line with the market condition, the set of multiplier factors is revised as follows –

		New factor
(a)	Multiplier for staff employed in the consultant's offices	2.0
(b)	Multiplier for site staff supplied by the consultant	1.6

EFFECT OF THE CHANGES

11. We have reviewed the 14 submissions which PWSC had considered at the meetings held on 16 October, and 13 and 27 November 2002. As a result of the revisions to the multipliers, we intend to adjust the project estimates of the following four projects –

	Project description	**Adjustment to estimated consultants' fees**	**Adjustment to project estimate**
(a)	**91ET** – Education resource centre-cum-public transport interchange at Kowloon Tong – stage 2	From $2.9 million by $0.5 million to $2.4 million	From $469.4 million to $468.9 million

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	Project description	Adjustment to estimated consultants' fees	Adjustment to project estimate
(b)	**18TC** – Renewal of Hong Kong Area Traffic Control and Closed Circuit Television Systems	From $8.4 million by $0.8 million to $7.6 million	From $128.2 million to $127.4 million
(c)	**232WF** – Reconstruction of catchwater channels and tunnels in Tai Lam Chung	From $14.1 million by $1 million to $13.1 million	From $138.1 million to $137.1 million
(d)	**64CD** – Rural Drainage Rehabilitation Scheme	From $19.3 million by $0.8 million to $18.5 million	From $200.1 million to $199.3 million

For the remaining ten projects, they either do not involve consultancies or the consultancy fees form a part of the actual lump-sum fee bid by the consultants who carried out the detailed design and tender documentation for the projects. The changes in multipliers would not affect these project estimates.

12. We will invite Finance Committee (FC) to approve the revised project estimates for **91ET** and **18TC** (paragraphs 11 (a) and (b) above) on 6 December 2002, and **232WF** and **64CD** (paragraphs 11(c) and (d) above) on 20 December 2002.

13. We will also adopt the revised multiplier factors for all future PWSC submissions. This will only affect the estimated provision contained in PWSC and FC submissions for consultancy fees. The actual requirements for consultancy services will still be determined by a system of open and competitive tendering.

Environment, Transport and Works Bureau
Financial Services and the Treasury Bureau
November 2002

Sample Template

Breakdown of the estimates for consultants' fees (at September 2001 prices)

Consultants' staff costs		Estimated man-months	Average MPS* salary point	Multiplier	Estimated fee ($ million)
(a) Supervision of construction and adminstration of contract	Professional	213	38	2.4	30.9
	Technical	186	14	2.4	8.7
(b) Resident site staff	Professional	2 700	38	1.7	277.2
	Technical	10 333	14	1.7	342.7
(c) EM&A programme	Professional	72	38	2.4	10.4
	Technical	300	14	2.4	14.0
				Sub-total	683.9
(d) EMSTF charges					15.0
				Total	698.9

* MPS = Master Pay Scale

Notes

1. A multiplier of 2.4 is applied to the average MPS point to arrive at the full staff costs including the consultants' overheads and profits as the staff will be employed in the consultants' offices. A multiplier of 1.7 is applied to the average MPS point in the case of resident site staff supplied by the consultants. (At 1.4.2001, MPS pt. 38 = $60,395 per month and MPS pt. 14 = $19,510 per month)

2. Since the establishment of the EMSTF on 1 August 1996 under the Trading Fund Ordinance, government departments are charged for design and technical consultancy services for electrical and mechanical (E&M) installations provided by Electrical and Mechanical Services Department (EMSD). The services rendered for this project include checking consultants' submissions on all E&M installations and providing technical advice to Government on all E&M works and their impacts on the project.