

NOTE FOR FINANCE COMMITTEE

Estimates of Consultants' Costs for Capital Works Projects and Works-related Studies

INTRODUCTION

We seek the Finance Committee's (FC) approval, via the Public Works Subcommittee (PWSC), of expenditure incurred in procuring works-related consultancy services. We calculate the costs of such services according to a standard method of estimation and provide a breakdown of the estimated costs as an Annex to the relevant funding submissions. We also apply this methodology to certain works-related studies, such as environmental and planning studies, funded under the General Revenue Account.

2. We review the above methodology periodically to ensure consistency with market trends over time. We have recently carried out such a review and have concluded that the existing approach is conceptually sound and should be retained with the exception of the standard multiplier factors adopted for estimating the cost of consultants' overheads. In this regard, we have concluded that the factors currently in use should be reduced by 20% to reflect more closely the trend in market prices during the last two years. Details of the rationale behind these changes are set out below.

CURRENT METHOD OF ESTIMATING CONSULTANCY FEES

3. Under our current practice, departments wishing to procure consultancy services work out the estimated costs of such services on the assumption that the work would be carried out, in house, by departmental staff. The methodology adopted requires the department to assess the number of staff needed to carry out the project, the level of professional or technical expertise required in each case to deliver the services to the required standards and the time taken by each person to complete his individual tasks. The total staffing cost is then calculated by relating the number and rank of staff required to an appropriate

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point on the Master Pay Scale (MPS). In addition to the calculation of the required staffing costs we calculate the costs of overheads to be met by the consultant and any out of pocket expenses incurred in delivering the services. Details of the various cost components are set out below. The same methodology is adopted in estimating consultants' costs for building projects and engineering projects.

(a) Manpower requirement

4. To assess the number of staff required, the department identifies the various tasks and duties to be carried out by the consultants. These are divided into a number of broad categories of work e.g. feasibility studies, preliminary and detailed design work, preparation of contract documents, tender assessment, contract administration and supervision of construction using resident site staff. These categories are further subdivided into smaller tasks and deliverables to enable the department to assess how much time is needed to accomplish each of the identified tasks under each category of work. The assessment is normally expressed in terms of man-months.

(b) Staffing costs

5. The department then assesses the appropriate level of professional and technical expertise required to carry out the individual tasks, i.e. which professional and technical grades of government staff would be deployed were the consultancy work to be done in-house. The level of expertise and experience required is related to the complexity of the task in hand and the qualitative standards expected with regard to the project deliverables. The department then relates the level of professional and technical grade staff required to an appropriate point on the MPS for the purpose of estimating the staffing costs. The relevant MPS points may vary from project to project depending on the complexity of the work involved. For ease of estimation departments tend to use **median MPS points** for larger consultancies which employ a range of professional and technical staff, i.e. MPS Point 40 and MPS Point 16 for professional and technical staff respectively. Departments may use higher or lower MPS scale points should the circumstances of a project so warrant. For small projects or studies employing only one or two people, departments may adjust the MPS points to reflect the specialist status of individual team members. Based on the assessment of the duties involved, the numbers and ranks of the individual team members, their appropriate MPS points and the time required for delivering the various categories of work, the department works out the estimate for the *staffing* costs of the required consultancy services.

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(c) Overhead costs

6. In addition to staffing costs, departments must include the additional overhead costs to be met by the consultant, e.g. the provision of office accommodation, clerical and supporting staff, education, health and housing benefits and staff gratuities. Overhead costs are calculated in accordance with standard multiplier factors which are determined from time to time on the basis of actual tender prices bid by successful consultants. Until recently, the standard multipliers used were as follows -

- 3.0 for staff employed in the consultant's offices
- 2.5 for staff seconded to work in Government offices
- 2.1 for site staff supplied by the consultant

(d) Out of pocket expenses

7. Over and above the consultant's normal fees, departments sometimes have to pay for the costs of ancillary services necessary for the completion of the assignment, the scope and extent of which cannot be accurately identified at the bidding stage but only during the course of the assignment. These are referred to as out of pocket expenses and cover expenditure on items such as the purchase of computer software, special surveys, the construction of models or video presentations and detailed site investigation work. Such expenses are assessed separately by the relevant department and are paid to the consultant on a reimbursement basis. No additional payment is made to the consultant in respect of overhead contribution or profit.

Total Cost Estimation

8. Having taken into account all of the above cost factors, a breakdown of the relevant costs for each category of work is then set out in the relevant PWSC submission or Cat. D paper in the case of consultancies approved under delegated authority.

REVIEW OF THE CURRENT METHODOLOGY

9. We have carried out a review of the above methodology to see if it is still relevant in the light of current market conditions. We have concluded that, in general, the existing approach to cost estimation is appropriate and should be

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retained with the exception of the current standard multiplier factors (see paragraph 10 below). Conceptually, the cost estimates of consultancy services should reflect the inputs in terms of professional and technical expertise and experience the Government believes is required to provide the necessary services to a pre-determined qualitative standard. The quantitative element is addressed by computing the appropriate number of man-months required to deliver the necessary services and the qualitative element is addressed by establishing, in advance, the competence and experience (and hence the cost) of the staff required. We believe this methodology is a fair and equitable basis **for estimation purposes**. Also, where there is a range of professional and technical staff involved, we believe the use of median MPS points for **estimation purposes** is fully justified. We are equally confident that a reimbursement approach to out of pocket expenses for ancillary services is valid and precludes the possibility of consultants claiming additional fees and profits for the provision of such services.

Revisions to the Standard Multiplier Factors

10. As indicated above, we compare our estimation of consultancy costs with actual tendered fees on a periodic basis. We have recently completed an analysis of the winning bids of all works-related consultancies awarded by the Engineering and Associated Consultants Selection Board and the Architectural and Associated Consultants Selection Board in the last two years with the respective cost estimates. We observe there is a significant differential between the two. While some winning bids are lower than the relevant departmental estimates and some are higher, on average, winning bids for consultancy assignments tend to be some 20% lower than the departmental estimates. As the overall manpower input in these bids has not been significantly compromised when the winning consultants deliver the required services and the quality of the output remains generally satisfactory, we are of the view that the general decrease in tender prices reflects "market considerations" relating to staffing costs, overheads and profit margins specific to individual firms. Therefore, to reflect the current market situation more accurately, we have introduced the following revised standard multiplier factors for estimating consultancy fees -

- 2.4 for staff employed in the consultant's offices
- 2.0 for staff seconded to work in Government offices
- 1.7 for site staff employed by the consultant

The above changes reduce the current differential between departmental estimates and the actual fees for providing consultancy services. They should lead to more realistic cost estimates in PWSC and FC funding submissions.

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EFFECT OF THE CHANGES

11. As a result of the above changes the detailed breakdown of consultant's fees included in PWSC submissions and Cat. D papers has been slightly amended. An example of the revised breakdown is attached at the Encl. Enclosure for Members' information.

12. Members are also asked to note that the proposed changes affect only the way in which we estimate the cost of employing consultants. The figures for consultancy fees contained in PWSC and FC submissions are included for **estimation and resource allocation** purposes only. **The actual fees for providing consultancy services are determined by a system of open and competitive tendering** which reflects prevailing market forces. Recent experience suggests that current market conditions are extremely competitive in certain sectors and winning bids are often significantly lower than departmental estimates. The introduction of revised standard multiplier factors assists in addressing this discrepancy.

PANEL CONSULTATION

13. Our proposal to adjust the standard multipliers was considered by a joint meeting of the Legislative Council Panel on Financial Affairs and the Panel on Planning, Lands and Works on 7 January 1999. Members of both panels supported the proposed adjustment.

Finance Bureau
January 1999

EXAMPLE**DETAILS OF CONSULTANT'S COSTS****Breakdown of estimates for consultant's costs**

Consultant's staff costs		Estimated man months	Average MPS salary point	Multiplier factor	Estimated fee (\$million)	
(a)	Review of the findings of feasibility study	3	40	2.4	0.43	
(b)	Detailed design of 'x' including supervision of site investigation works	Professional	28	40	2.4	3.98
		Technical	14	16	2.4	0.67
(c)	Preparation of tender documents for 'x'	Professional	6	40	2.4	0.85
		Technical	12	16	2.4	0.57
(d)	Assessment of tenders	Professional	3	40	2.4	0.43
		Technical	6	16	2.4	0.29
(e)	Site supervision by resident site staff employed by the consultant	Professional	90	40	1.7	9.06
		Technical	90	16	1.7	3.04
Total consultant's staff costs					19.32	
Out-of-pocket expenses						
(a)	Purchase of computer software to model impact of 'x' after completion under various operational scenarios				3.00	
(b)	Detailed site investigation works				10.00	
Total out-of-pocket expenses					13.00	

Notes

Notes

1. A multiplier factor of 2.4 is applied to the average MPS point to arrive at the full staff costs including the consultant's overheads and profit, as the staff will be employed in the consultant's offices. (At 1.4.97, MPS point 40 = \$59,210 per month and MPS point 16 = \$19,860 per month.) A multiplier factor of 1.7 is applied in the case of site staff supplied by the consultant.
2. Out-of-pocket expenses are the actual costs incurred. The consultant is not entitled to any additional payment for overheads or profit in respect of these items.
3. The figures given above are based on estimates prepared by the Director of _____ . We will only know the actual man months and actual fees when we have selected the consultant through the usual competitive lump sum fee bid system.