

立法會
Legislative Council

LC Paper No. PWSC79/13-14
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seen by the Administration)

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**Public Works Subcommittee of the Finance Committee
of the Legislative Council**

**Notes of the briefing on the estimation of project costs
held in Conference Room 1 of the Legislative Council Complex
on Tuesday, 12 November 2013, at 9:00 am**

Members present:

Ir Dr Hon LO Wai-kwok, BBS, MH, JP (Chairman)
Hon James TO Kun-sun
Hon CHAN Kam-lam, SBS, JP
Hon Emily LAU Wai-hing, JP
Hon TAM Yiu-chung, GBS, JP
Hon Abraham SHEK Lai-him, GBS, JP
Hon WONG Kwok-hing, BBS, MH
Hon IP Kwok-him, GBS, JP
Hon Alan LEONG Kah-kit, SC
Hon Frankie YICK Chi-ming
Hon WU Chi-wai, MH
Hon MA Fung-kwok, SBS, JP
Hon Charles Peter MOK
Dr Hon Kenneth CHAN Ka-lok
Hon CHAN Yuen-han, SBS, JP
Dr Hon Fernando CHEUNG Chiu-hung
Dr Hon Elizabeth QUAT, JP
Hon Christopher CHUNG Shu-kun, BBS, MH, JP

Members absent:

Hon LEUNG Che-cheung, BBS, MH, JP (Deputy Chairman)
Hon Cyd HO Sau-lan
Hon CHAN Hak-kan, JP
Dr Hon LEUNG Ka-lau
Hon Albert CHAN Wai-yip
Hon Michael TIEN Puk-sun, BBS, JP
Hon Gary FAN Kwok-wai
Hon CHAN Han-pan
Hon Alice MAK Mei-kuen, JP
Dr Hon Helena WONG Pik-wan
Dr Hon CHIANG Lai-wan, JP
Hon Tony TSE Wai-chuen

Public officers attending:

Mr YEUNG Tak-keung	Deputy Secretary for Financial Services and the Treasury (Treasury)3
Mr Enoch LAM Tin-sing, JP	Deputy Secretary for Development (Works)2
Mr John KWONG Ka-sing	Chief Assistant Secretary for Development (Works)1
Mr Eric LEE Yiu-kwong	Senior Economist (R) Financial Secretary's Office
Ms Joyce HO Kwok-shan	Principal Assistant Secretary for Financial Services and the Treasury (Treasury) (Works)

Clerk in attendance:

Ms Annette LAM	Chief Council Secretary (1)3
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Staff in attendance:

Ms Connie HO	Senior Council Secretary (1)3
Mr Frankie WOO	Senior Legislative Assistant (1)3
Ms Christy YAU	Legislative Assistant (1)7

Briefing on the estimation of project cost
PWSCI (2013-14)10 – Information note on "Estimation of Project Cost"

The Chairman welcomed representatives of the Administration to the briefing session on estimation of project cost.

2. At the invitation of the Chairman, Chief Assistant Secretary for Development (Works)1 ("CAS(W)1/DEVB") briefed members on the current approach and methodology for the estimation of project cost for public works projects with the aid of a powerpoint presentation. He said that the project cost mainly comprised three components, namely the "base estimate", "project contingency" and "provision for price adjustment", the details of which were set out in the Administration's information note (LC Paper No. PWSCI(2013-14)10).

(Post-meeting note: The powerpoint presentation materials were circulated to members vide LC Paper No. PWSC11/13-14 on 13 November 2013.)

Accuracy of the prevailing project cost estimation methodology

3. Mr Christopher CHUNG opined that as the private construction sector would make reference to the costs of public works projects in determining the costs of their projects, the inclusion of the provision for price adjustment in the costs of public works projects had over-stated the project costs and consequentially pushed up the overall costs of construction projects in the market. Mr CHUNG enquired if it would be feasible for the Administration to enter into fixed-sum contracts, i.e. without a provision for price adjustment, with contractors or to put in place measures to control the project costs, such as the ordering of raw materials in advance, to mitigate the risk of cost overrun.

4. Deputy Secretary for Development (Works)2 ("DS(W)2/DEVB") responded the Administration had taken into consideration the latest costs of similar projects when preparing the cost estimation of a particular project. However, there might be changes in the costs of construction labour, machinery and materials during the entire period of the project that were beyond the Administration's anticipation. He cited an example that in 2008, the Administration had applied for increases in APEs for a number of public works projects due to the global increase in the price of steel. He further explained that if the risk of price fluctuation was to be solely borne by the bidders under a fixed-sum contract, they would incorporate a higher risk premium into the tenders for the works, leading to higher tender prices. The contract price fluctuation system ("CPFS") currently adopted by the

Administration was an equitable risk sharing mechanism in that the payments to the contractors could be adjusted either upward or downward in response to changes in the construction material and labour costs. The CPFS allowed the Administration to pay for what should be paid, taking into account inflation and deflation. In the light of the above, the Administration considered the current mechanism of CPFS an effective way to manage project costs.

5. Pointing out that the military departments and defence agencies in the United States had adopted the Unified Facilities Criteria ("UFC") to provide planning, design and construction criteria for their works projects and to serve as a standard method in project cost estimation mechanism, Dr Fernando CHEUNG enquired whether the Administration would consider drawing up a set of guidelines similar to UFC for better coordination of planning and cost estimation for public works projects across different Government bureaux and departments, as well as statutory bodies. Noting that the provision of \$1,130 million for project contingency was sufficient to cover the project cost overrun of about \$550 million of a works project for the development of the Liantang/Heung Yuen Wai Boundary Control Point ("LT/HYWBCP") as revealed from the Report on Significant Deviations between Accepted Tender Prices and Estimated Provisions in the Approved Project Estimates (for Capitals Works Contracts Awarded in the Third Quarter of 2013) (LC Paper No. PWSC 32/13-14(01)), Dr CHEUNG expressed concern that project tenderers might take advantage of the high proportion of the provision for contingency in the cost of a project to push up tender prices.

6. In response, DS(W)2/DEVB advised that the current methodology for project cost estimation adopted by the Administration was commonly used in overseas countries as well as among local organizations, such as the MTR Corporation Limited ("MTRCL"). On the assessment of risks associated with a project for determining the amount of provision for project contingency, the Administration had made reference to overseas practices and formulated a set of guidelines that suited the local situations in Hong Kong for the reference of professional staff of works departments. Under an open tender mechanism, bidders of public works projects would naturally offer competitive tender prices. He added that the LT/HYWBCP project was divided into a number of works contracts for implementation. The cost overrun in a particular contract might be covered by the surplus provisions in other contracts.

Cost overrun in public works projects

7. Mr WONG Kwok-hing expressed grave concern over the almost 4-fold increase in the estimated project cost of the New Broadcasting House

("the New BH") of Radio Television Hong Kong ("RTHK") from \$1.6 billion to \$6 billion. Pointing out that such a substantial increase in project cost was disproportionate to the original estimate, Mr WONG requested that the Administration should provide detailed justifications for the increase to Legislative Council ("LegCo") Members and the public in this regard. DS(W)2/DEVB explained that to the best of his knowledge, the increase in the project cost of the New BH was mainly due to changes in the project scope, which was not uncommon in the planning process of a public works project. He explained that the initial cost estimate of a project was only a rough estimate derived from the project's preliminary plan. The scope of the project might change considerably in the light of the public opinions received during the relevant public engagement/consultation exercises. Ms Emily LAU advised that the Administration should carve out clearly the project scope in the planning stage as far as possible to avoid proposing drastic increases in project cost estimates.

8. Mr Christopher CHUNG enquired about the proportion of public works projects involving cost overrun. For the projects with surplus provisions, he asked how the Administration would make use of the surpluses. In response, DS(W)2/DEVB advised that only a few projects needed an increase in APE in the past and any unspent project funds would be returned to the Treasury. CAS(W)1/DEVB added that in the past 10 LegCo sessions, the Finance Committee ("FC") had approved the funding of around 600 submissions of capital works projects, among which only 34 needed increases in APE. Mr WONG Kwok-hing enquired about the number of projects with cost overrun, the total amount of cost overrun, as well as the projects with the greatest and least amount of cost overrun in the past year. Mr TAM Yiu-chung was concerned whether large-scale projects were more likely to incur cost overrun. The Administration undertook to provide supplementary information in response to the questions raised by Mr WONG and Mr TAM.

(Post-meeting note: The supplementary information provided by the Administration was circulated to members vide LC Paper No. PWSC19/13-14 on 17 December 2013.)

9. Mr Alan LEONG enquired about the distribution of works projects with cost overrun by year. DS(W)2/DEVB advised the following -

Year	No. of approved submissions with increases in APE
2003-2004	2
2004-2005	1
2005-2006	2
2006-2007	2

2007-2008	0
2008-2009	7
2009-2010	7
2010-2011	3
2011-2012	6
2012-2013	4
Total	34

10. Noting that over 50% of the submissions with increases in APE in the past 10 years had been made between 2008-2009 and 2012-2013, Mr Alan LEONG queried whether such a phenomenon was due to inadequacy of the prevailing tendering mechanism or problems in contract management. He also enquired about the reasons for the cost overrun. DS(W)2/DEVB responded that it would be more meaningful to compare the number of projects with cost overrun against the total number of projects in progress in the same period. He said that the number of works projects in progress during the economic trough from 2003 to 2007 was far smaller than that between 2008 and 2013, when the economic situation in Hong Kong was improving and local construction output was increasing. At the request of Mr Alan LEONG, the Administration undertook to provide an analysis on the reasons for cost overrun in works projects in the past 10 years.

(Post-meeting note: The supplementary information provided by the Administration was circulated to members vide LC Paper No. PWSC 19/13-14 on 17 December 2013.)

11. Pointing out that cost overrun in public works projects was an issue of major public concern, Ms Emily LAU stressed the importance for the Administration to provide the most accurate project cost estimates in the funding proposals submitted to LegCo and to adopt a professional and independent mechanism to work out the estimates. DS(W)2/DEVB said that the Administration had been making its best efforts in the preparation of project cost estimates based on available information. With a view to further enhancing the accuracy of the estimates, the Administration would explore ways to strengthen the capability of professional staff on the estimation of project costs. A study on contractors' risk perceptions would also be conducted to enhance the Administration's understanding of contractors' tendering considerations.

12. Mr MA Fung-kwok was concerned whether the Administration had exercised adequate monitoring over the costs of capital works projects implemented by statutory bodies. He cited that the project cost of the Xiqu Centre in the West Kowloon Cultural District ("WKCD") had doubled the original estimate. Although the Administration had not injected additional

funds to the West Kowloon Cultural District Authority ("WKCD"), it had taken up the integrated basement project of WKCD and planned to seek FC's approval for separate funding for this project. Pointing out that statutory bodies might engage their own consultants for capital works projects and adopt a different cost estimation methodology, Mr MA enquired how the Administration could ensure that the estimates of such projects were reasonable and accurate. He also asked how the Administration played a monitoring role over the costs of capital works projects implemented by statutory bodies.

13. DS(W)2/DEVB advised that whether additional funds would be injected into a statutory body to meet the shortfall in the funding for their works projects would depend on the arrangements set out in the Ordinance based on which the statutory body was established. As far as project cost estimation was concerned, the methodologies adopted by statutory bodies such as WKCD and the Hospital Authority were broadly the same as that of the Administration. However, the procurement method to be used for individual projects would depend on the peculiarity of individual projects and the practical situation. He added that representatives of the relevant Government bureaux/departments sitting in the management committees of statutory bodies would discharge their monitoring roles on project costs when the projects were put up for consideration by the committees.

14. Mr Frankie YICK said that the costs of public works projects were usually on the high side as compared with similar projects in the private sector. He queried whether such a phenomenon was due to the stringent contract provisions and specifications of the projects, which had rendered it necessary for the contractors to build in a larger buffer in project costs. DS(W)2/DEVB advised that the costs of public works projects were not necessarily higher than those of the projects undertaken by the private sector. The Architectural Services Department would make reference to the costs of similar construction projects in the private sector when assessing the cost of a particular building works project. That said, since the Administration strived to set an example to the private sector in respect of green building design and construction safety, the relevant requirements might lead to higher project costs.

Ensuring the quality of works

15. Ms Emily LAU enquired whether the contract of a public works project would usually be awarded to the tenderer submitting the lowest bid. She was concerned about the possible adverse impact of such a practice on the quality of works. DS(W)2/DEVB advised that apart from tender prices, which usually made up 50% to 60% of the total scores, the Administration

would take into account the past performance of the contractors as well as their technical proposals for the project in assessing the tenders. In fact, the Administration could refuse to consider tender bids which were extraordinarily low in prices. To encourage the contractors to submit tender bids at a normal price level, the Administration was considering putting in place a mechanism whereby the scores for a tender would be deducted should the price was unreasonably low.

16. Dr Fernando CHEUNG pointed out that the subcontracting of works contracts by the main contractor might affect the quality of works. He asked if the Administration had imposed any restrictions on subcontracting in public works projects. Miss CHAN Yuen-han enquired how the Administration could ensure the quality of works of public works projects by exercising effective management over the subcontractors.

17. DS(W)2/DEVB responded that the Administration had stipulated in the contracts for public works projects that the subcontracting of works by the main contractors should normally not exceed two levels. Subcontracting was restricted to one level only for projects with higher risks and safety concerns. On enhancing the management of public works projects to better ensure the quality of works, DS(W)2/DEVB advised that the Administration had been promoting a partnering approach in public works contracts by the adoption of the New Engineering Contract ("NEC") form. The NEC form adopted the "pain share/gain share" mechanism whereby the Administration and the contractor would share the difference between the actual cost and the final target cost of the project. It drove the contracting parties to a common goal of completing the works together at a reduced cost and in a shorter period. The Drainage Services Department's contract on "Improvement of Fuk Man Road Nullah in Sai Kung" was the Administration's first pilot trial of applying NEC form in public works contracts and the outcome was satisfactory. The actual completion date of the project was six months ahead of the contractual completion date and the actual construction cost was 5% (about \$3 million) below the final target cost. At the request of Ms Emily LAU, the Administration would provide a list of public works projects with contracts awarded using the NEC form.

(Post-meeting note: The supplementary information provided by the Administration was circulated to members vide LC Paper No. PWSC19/13-14 on 17 December 2013.)

18. Miss CHAN Yuen-han expressed concern about the impact of shortage of construction workers on the quality of works, taking in view that a large number of works projects would be implemented in the next few years in the light of Administration's efforts to increase housing supply.

Miss CHAN recalled the serious structural safety problems with public housing developments caused by the bunching of housing projects in the mid-1990s and cautioned that the Administration should enhance risk management for public works projects to avoid the recurrence of similar incidents. Noting that the NEC form could help better manage the risks involved in public works projects, Miss CHAN enquired whether such a contract form would be adopted in housing projects under the purview of the Housing Department ("HD"). DS(W)2/DEVB advised that HD was supportive to the principles of the NEC form. The form had been put on trial for the works projects under different Government departments. Subject to the results of the trial, the Administration would consider wider application of the NEC form in public works projects.

19. Mr Abraham SHEK declared that he was Non-executive Director of two listed construction companies and the representative of the Functional Constituency of Real Estate and Construction in LegCo. Mr SHEK enquired about the acceptance of the NEC form by the construction industry and whether the stakeholders concerned had any dissenting views on the adoption of the form. DS(W)2/DEVB responded that the Administration had been maintaining close communication with stakeholders in the construction industry and that thorough consultation with the industry was conducted prior to the introduction of any new policy initiatives. He advised that stakeholders in the construction industry had been consulted on the new NEC form and they supported the proposal in general. Some contractors had already applied the form in their contracts with subcontractors.

20. At the request of Mr Abraham SHEK, the Administration undertook to provide supplementary information on the difference between the NEC form and the prevailing contract form in the implementation of works projects with the illustration of a project as an example, and provide the views of major stakeholders in the construction industry, including the Hong Kong Construction Association, the Hong Kong E & M Contractors' Association Limited and the Hong Kong Federation of Electrical and Mechanical Contractors Limited, on the adoption of the NEC form, in particular the problems encountered, if any.

(Post-meeting note: The supplementary information provided by the Administration was circulated to members vide LC Paper No. PWSC19/13-14 on 17 December 2013.)

Slippage of projects

21. Ms Emily LAU expressed concern about the slow progress of public works projects in recent years and queried whether such a phenomenon was due to the Administration's cumbersome procedure for taking forward public works projects. She also enquired about, among the some 630 submissions approved by FC in the past 10 LegCo sessions, the number of public works projects with project slippage and if there was any correlation between slippage of works and cost overrun in these projects. Ms LAU requested the Administration to provide supplementary information in this regard.

(Post-meeting note: The supplementary information provided by the Administration was circulated to members vide LC Paper No. PWSC19/13-14 on 17 December 2013.)

22. DS(W)2/DEVB responded that the Administration had strived to expedite the implementation of public works projects. He explained that it would take time to carry out public consultation exercises prior to the implementation of most of the public works projects. Some of these consultation exercises were conducted according to statutory requirements, while some were administrative in nature. The Administration would accelerate the progress of public works projects by compressing the administrative consultation procedures among Government bureaux and departments as far as possible.

23. Miss CHAN Yuen-han said that repeated extension of completion date of road works projects was a common phenomenon and had caused prolonged nuisances to residents and business operators in the vicinity of the project sites. She queried whether the Administration had effectively managed such projects. DS(W)2/DEVB advised that the relevant works departments reviewed the progress of works projects periodically with the contractors. Under the prevailing practice, should the contractor fail to complete the works on schedule for reasonable reasons such as inclement weather, the Administration could recover from the contractor liquidated damages, which were calculated using the rate per day as prescribed in the relevant works contracts. The Administration considered such a measure effective in deterring project slippage. At the request of Miss CHAN Yuen-han, the Administration undertook to provide information on the number of road works projects with slippage of works.

(Post-meeting note: The supplementary information provided by the Administration was circulated to members vide LC Paper No. PWSC19/13-14 on 17 December 2013.)

Shortage of construction manpower

24. Ms Emily LAU enquired if the shortage of construction workers had led to the upsurge in project costs. Mr Frankie YICK was of the view that the costs of public works projects might go up further in the future given the shortage of construction manpower and the volatility of prices of imported construction materials. Miss CHAN Yuen-han urged the Administration to assess whether the local construction industry could withstand the challenges posed by the huge volume of construction works to be implemented in the next few years. She urged the Administration to plan for the supply of adequate manpower resources in the local construction industry and stressed that under no circumstances should the Administration consider resorting to importation of workers.

25. DS(W)2/DEVB said that the Administration had accorded a high priority on enhancing the supply as well as the training of local construction workers since 2010 with a view to alleviating the problem of manpower shortage in the construction industry. The Administration had collaborated with the Construction Industry Council ("CIC") in implementing the "Enhanced Construction Manpower Training Scheme" ("ECMTS") to attract more new entrants to the industry. Up to December 2013, about 4 500 trainees had joined ECMTS and about 55% of them were aged below 35. Most of the ECMTS graduates were new entrants, indicating that more young people had joined the industry. Moreover, to diversify the modes of training and provide more training places, CIC had launched the "Contractor Cooperative Training Scheme", under which trainees could be hired and trained on-site to facilitate early acquisition of site experience. To reduce the demand for construction labour, the contractors had been encouraged to adopt wider use of mechanization and prefabrication, as well as innovative procurement approaches to enhance productivity.

26. Mr IP Kwok-him enquired whether the shortage of construction workers was accepted by the Administration as a reason for contractors' requests for extending the works programmes. Mr IP was concerned that if this was acceptable, contractors would not be required to compensate the Government for the damages arising from slippage of works.

27. DS(W)2/DEVB advised that in existing public works contracts, there was a provision stipulating that shortage of labour would not be accepted as a reason for deferring the completion date. However, taking into consideration new developments in the construction market, the aforesaid provision had been removed in new contracts. This did not mean that the Administration had granted a blanket approval for extension of works on the

ground of construction labour shortage. Instead, the Administration would consider each case in the light of the relevant circumstances. He emphasized that the Administration would not make any monetary compensation to the contractor even if a delay in the progress of the project was caused by construction labour shortage.

Enhancing competition in the tendering process

28. Pointing out that the limited competition in the tendering exercises of large-scale public works projects, due to the small number of contractors qualified for bidding such contracts, might have attributed to the upward trend of tender prices, Mr Alan LEONG opined that the Administration should take measures to encourage more contractors to participate in tendering exercises. Mr IP Kwok-him held the view that the Administration should consider splitting large-scale projects into a number of contracts of smaller amount to enable small-sized contractors to participate in public works projects, thereby increasing competition in the tendering process and driving down the tender prices. Mr Frankie YICK and Mr Abraham SHEK expressed similar views.

29. DS(W)2/DEVB responded that the Administration had split mega projects into contracts of smaller amounts as far as practicable in the last 10 years or so to enhance the participation of small- and medium-sized contractors in public works projects. In addition, the Administration had updated the rules for the admission and management of the List of Approved Contractors for Public Works. For example, the tender limits for the various groups of listed contractors had been raised, which would help enhance the tendering opportunity for medium- to small-sized contractors. For the probationary contractors seeking a confirmed status on the List, not only their relevant experience in Government projects, but also that in selected non-Government works contracts, were accepted. The review of the procurement system for public works projects would go on to tie in with the changing market conditions.

Role of consultants in public works projects

30. Mr TAM Yiu-chung sought clarifications on the role of the consultants and the responsibilities of the professional staff in works departments in the implementation of public works projects. DS(W)2/DEVB replied that consultants were usually engaged in carrying out large-scale construction and civil engineering projects. Whereas the consultants were responsible for the design and management of the projects as well as the supervision of construction works, professional staff of works departments assessed the consultants' proposals in respect of project design

and compliance with technical requirements, as well as played a coordination role between various stakeholders on the implementation of the projects.

Any other business

31. There being no other business, the meeting ended at 10:29 am.

Council Business Division 1
Legislative Council Secretariat
22 May 2014