

Construction Industry Council
3rd Progress Report of Committee on Procurement

Purpose

This paper outlines the main points discussed at the 3rd meeting of the Committee on Procurement held on 8 October 2007. The record of attendance is at Annex.

Issues Discussed

2. Members discussed the following issues –
- innovative procurement arrangements adopted in development projects in Macau;
 - design and build (D&B) projects of Arch SD; and
 - EPD's experience on design, build and operate (DBO) contracts.

Progress on Matters Arising from 2nd Meeting on 31 July 2007

3. Members noted the following

Paragraph 14(a)

Innovative procurement arrangements adopted in Macau would be discussed in later parts of the meeting.

Paragraph 14(b)

The discussion of public private partnership was being arranged.

**Innovative Procurement Arrangements
Adopted in Development Projects in Macau**

4. Messrs Ian Cocking and Brian Downie of Minter Ellison gave an overview of the innovative procurement arrangements adopted in the recent development projects in Macau. The market in Macau was characterized by the imperative for speed, developers that were unfamiliar with the local construction market and had limited or no internal design and construction capability, large project size, labour and

resources constraints as well as desire for flexibility in changing the design in the course of construction.

5. A number of innovative procurement approaches were adopted to meet these challenges. The D&B approach was used in Sands Macau to reduce the employer's risk, make better use of contractor's expertise and fast track construction. On the other hand, the costs might be higher because of higher risk placed on the contractor. The owner also lost control over the design. The design management approach was used in the Venetian Macao whereby the owner employed a group of design consultants and a construction manager for managing the construction contracts. In comparison to D&B, the owner could exercise better control on the design and there would be less risk on the contractors. On the downside, there was less certainty on price and completion day and increased project management cost.

6. Wynn Macao and Crown Macau were delivered through guaranteed maximum price (GMP) contracts under which contractors were reimbursed up to the GMP for the cost of work and contractors' fee. The GMP could be adjusted to reflect change of project requirements. The parties would share savings but contractors would have to absorb cost beyond the GMP. This arrangement provided incentive for cost saving but increased the contractor's exposure to incurring costs above the GMP. It was expected that the competitive environment, the bargaining power of key contractors and their reluctant to incur high tendering cost would continue to drive innovations in procurement arrangements in Macau.

7. In response to the observation that the design management arrangement could lead to high project cost due to lack of a single point of responsibility, Mr Brian Downie suggested that the additional expense could be offset by cost saving resulting from splitting construction works into suitable packages. A Member concurred that considerably cost savings could be achieved by investing in project management to manage the interfaces of works packages.

D&B Projects of Arch SD

8. Arch SD had delivered about 20 Government building projects using the D&B approach since 1991. Nine on-going projects were being undertaken and one was being planned. The project portfolio encompassed a large variety of buildings including hospitals, government quarters, government offices, police stations and sports grounds.

9. The D&B approach established a single point of responsibility through entrusting both detailed design and construction to contractors thus avoiding claims arising from design problems. The single point of responsibility resulted in greater certainty in the final contract cost. Considerable time saving could also be achieved through undertaking the detailed design and construction in parallel which would also facilitate more timely adjustment to building design to suit changes of user requirements. In terms of quality, the use of flexible Employer's Requirements (ER) in tendering provided room for contractors to achieve quality enhancements and deliver added value through innovations in design and construction.

10. The procurement process under the D&B approach usually started with prequalification of tenderers. The prequalified tenderers would tender on the basis of performance based requirements. The tender assessment process would take into account both quality and cost (in contrast to the conventional approach which was mainly cost driven). The supervision efforts for the D&B approach was only 25% in comparison to conventional approach since the onus of checking was placed on contractors.

11. The suitability of adopting the D&B approach would hinge on several prerequisites including the need to meet programme that was not possible under the conventional approach, established outsourcing strategies, clear definition of user requirements, availability of competent bidders, sufficient project size to cover the resources spent on prequalification and tendering as well as end user endorsement and co-operation.

12. Responding to Members' enquiries, Arch SD advised that consultants and contractors had geared up for the D&B mode of project delivery. Arch SD did not have clear preference for the D&B approach and would select the appropriate approach based on requirements of individual projects.

13. While D&B approach would lead to greater certainty in the final contract sum, there were doubts on whether the process could lead to the best design if sufficient time were not allowed for tendering. As such, it was suggested that consideration should be given to extending the tendering period to 10 to 12 weeks for contracts with value exceeding \$10 billion. The possibility of integrating D&B with GMP should also be considered.

14. Government should consider making direct payment to designers engaged in supervision work since employment by contractors could put them in awkward positions. While D&B contracts would involve high tendering cost, Government was not prepared to reimburse such costs to unsuccessful tenderers. Members agreed that CIC could take up this issue with DEVB if there was consensus on the reimbursement of tendering costs.

EPD's Experience on DBO Contracts

15. EPD decided to adopt the DBO approach when it took over the responsibility for development and management of a new generation of waste management facilities including landfills, refuse transfer stations (RTS) and chemical waste treatment centre (WTC) because the traditional procurement arrangements used in earlier contracts could not attract experienced operators. Between 1988 and 2000 EPD procured 16 DBO contracts. Under the DBO approach, contractors were responsible for the design, construction and operation of the waste management facilities on long-term basis (45 years for landfill contracts and 17 years for RTS contracts). DBO contracts specified the performance and environmental requirements, such as throughput and odour control. Contractors were free to choose the appropriate design and mode of operation for achieving compliance.

16. On advantages, DBO contracts generated long-term sources of income that attracted international waste management companies. Long contract durations were also found to be conducive to the adoption of rational and collaborative approach by the contracting parties. Moreover, allocation of operational responsibilities to contractors gave them incentives for adopting integrated solutions to achieve value for money. An example was the Island West Transfer Station in which the contractors proposed a cavern layout which was much more compact than the tender design.

17. On limitations, long-term contracts could restrict the employers' options in making major changes. Such changes could be made only through protracted negotiations. Moreover, contractors might propose technical solutions that complied with the performance requirements but were not in line with the employers' preferences.

18. Despite these limitations, EPD had recently reviewed the DBO approach and found that it had achieved the original goals devised in

1980's including providing access to international expertise, facilitating use of modern waste management techniques, enforcement of contractual provisions through financial provisions thus savings in staff sources for contract supervision.

19. Responding the Members' enquiries, EPD indicated that with the expiry of first generation of RTS contracts, new contracts would be procured through the DBO approach and would incorporate improvements such as milestone payment for the capital cost and direct payment by EPD to independent consultants engaged in checking compliance with performance criteria. International firms usually partnered with local firms in bidding for DBO contracts. While EPD's contractors employed a significant number of local staff, the adoption of advanced technology still depended on overseas support.

**CIC Secretariat
November 2007**

Committee on Procurement

**3rd Meeting held at 2:30 pm on 8 October 2007
in Conference Room 1201, Murray Building**

Record of Attendance

Present

Mr Russell Black	Chairman
Mr James Chiu	
Mr Thomas Ho	
Mr LAM Wo-hei	
Mr S S Lee	
Mr Conrad Wong	
Ms Susanna Wong	Housing Department
Mr K M Yeung	Housing Department
Mr C K Lau	Hong Kong Federation of Electrical and Mechanical Contractors
Mr CHEUNG Lung-hing	Hong Kong Construction Site Workers General Union
Mr Hugh Wu	Macao Studio City
Mr Ian Cocking	Minter Ellison Lawyers
Mr Colin Jesse	Evans and Pecks (HK) Ltd.
Ms. Margaret Coates	CLP Power Hong Kong Ltd.
Mr Edward Lee	Development Bureau

Absent with apologies

Mr James Blake
Mr Francis Bong
Dr Andrew Chan
Ms Teresa Cheng
Mr T T Cheung
Mr Michael Green
Mr Billy Wong

Ms Ada Fung representing Permanent Secretary for
Transport and Housing (Housing)
Prof. Mohan Kumaraswamy University of Hong Kong
Mr Hugh Boyd Hong Kong Construction Association

In attendance

Construction Industry Council Secretariat

Mr K H Tao Chief Assistant Secretary for the Environment,
Transport and Works (Works) 1
Mr Solomon Wong Assistant Secretary for the Environment,
Transport and Works (Works) Public Works
Systems Administration 1

**For discussion of “Innovative Procurement Arrangements Adopted
in Development Projects in Macau”**

Mr Brian Downie Minter Ellison Lawyers

For discussion of “Design & Build Projects of Arch SD”

Ms Uson Chung)
Mr Michael Chong) Architectural Services Department

For discussion of “EPD’s Experience on DBO Contracts”

Mr Lawrence Lau Environmental Protection Department