



CONSTRUCTION
INDUSTRY COUNCIL
建造業議會



REFERENCE MATERIAL

ON SELECTION OF CONTRACTORS

The Construction Industry Council (CIC) is committed to seeking continuous improvement in all aspects of the construction industry in Hong Kong. To achieve this aim, the CIC forms Committees, Task Forces and other forums to review specific areas of work with the intention of producing Alerts, Reference Materials, Guidelines and Codes of Conduct to assist participants in the industry to strive for excellence.

The CIC appreciates that some improvements and practices can be implemented immediately whilst others may take more time for implementation. It is for this reason that four separate categories of publication have been adopted, the purposes of which are as follows:


<p>Alerts</p>	<p>Alerts are reminders in the form of brief leaflets produced quickly to draw the immediate attention of relevant stakeholders to the need to follow some good practices or to implement some preventive measures in relation to the construction industry.</p>
<p>Reference Materials</p>	<p>Reference Materials are standards or methodologies generally adopted and regarded by the industry as good practices. The CIC recommends the adoption of the Reference Materials by industry stakeholders where appropriate.</p>
<p>Guidelines</p>	<p>Guidelines provide information and guidance on particular topics relevant to the construction industry. The CIC expects all industry stakeholders to adopt the recommendations set out in the Guidelines where applicable.</p>
<p>Code of Conduct</p>	<p>Codes of Conduct set out the principles that all relevant industry participants should follow. Under the Construction Industry Council (Cap 587), the CIC is tasked to formulate codes of conduct and enforce such codes. The CIC may take necessary actions to ensure compliance with the codes.</p>

If you have read this publication, we encourage you to share your feedback with us so we can further enhance it for the benefit of all concerned. With our joint effort, we believe our construction industry will develop further and will continue to prosper for years to come.

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Preface

The Task Force on Selection of Contractors was established under the Committee on Construction Procurement of the Construction Industry Council to promote good procurement practices when selecting and engaging contractors for construction works. Construction work is a team effort and the coming together of the team members start with the procurement process which will also determine how the team members cooperate during the project implementation. This will have direct impact on the cost, quality, time and safety of the construction works itself. A good deal made between the employer and the contractor with which both parties feel comfortable and satisfied will go a long way to ensure successful project completion.

The management of all construction projects involve the balancing of three factors, namely the COST, QUALITY and TIME (the Eternal Triangle).

Note that the three factors are inter-related and sometimes conflicting: a shorter construction period may lead to higher construction cost and a possible deterioration of quality.

Higher quality, or a more sophisticated design, would demand higher costs and longer construction time.

Lower costs could lead to reduction in quality, a simpler design or maybe a longer construction period.

The optimum balance of these three factors for the project to be handled must be determined to enable an appropriate procurement strategy to be drawn up. It is unrealistic that anyone can have the best of all three.

The art of tendering is to fix the requirements of one or two factors (e.g. the quality and the time) to form a common basis and let the tenderers compete on the remaining factor (e.g. the cost). This gives a fair and easy comparison of the tenders returned. If the tenderers are required to compete on more than one factor (e.g. both cost and time), comparison between the tenderers will become less clear and selection of the most appropriate contractor more difficult (e.g. what if the lowest

tenderer takes longer to complete than the second lowest?). Weightings will then have to be given against the time and cost factors to make comparisons.

This Reference Material is intended to assist employers and construction practitioners in their procurement of suitable contractors for their construction projects. The term “procurement” should not be taken narrowly as covering only the quotation inquiry or tendering process related to the works required. To have the best result, many factors will come into play, including the contractual setup, the selection of tenderers, the tendering process, the analysis and the final award etc.

Due to the above, this document will cover all the stages from the setting of the procurement strategy to the assessment of tenders received and final award of the project to the selected contractor. To make it useful to practitioners, a more pragmatic approach in line with the prevailing practices in Hong Kong will be taken, differentiating from general textbooks on the subject.

It should be noted that every construction project is unique. The Reference Material being, unavoidably, generic in nature would not cover all possible scenarios that may be encountered in the execution of construction works by different employers. Readers that want more in-depth advice to handle special conditions are recommended to make reference to further information on these issues* or seek professional advice from relevant consultants where appropriate.

* Reference can be made to publications on best practices issued by the Hong Kong Institute of Surveyors or the Royal Institution of Chartered Surveyors.

Introduction

Most people have the experience of obtaining quotations from builders or contractors for some construction work. Practitioners in the construction industry are generally aware of how such procurement should be done. However, with additional legislation to prevent corruption and bid-rigging, and contractors taking a more legalistic approach in their projects, there is a need to re-examine what constitute best practices for construction practitioners to review their current practices.

To assist readers, we have adopted a chronological order of the procurement process in the layout of this Reference Material.

Chapter 1 provides background information on the preparation and objectives of this Reference Material.

Chapter 2 introduces basic concepts regarding the procurement strategy and highlights the importance of selecting the right contract arrangement.

Chapter 3 discusses different contract arrangements, which standard contract forms are available for use in each arrangement, the risks involved and their respective effect in the subsequent implementation of the construction works.

Chapter 4 discusses the tenderer list for the works, its formulation and considerations that should be taken into account when finalizing the list.

Chapter 5 provides an overview of the tendering process itself, the tender documents needed, confidentiality issues and how to avoid collusion in the process.

Chapter 6 focuses on the evaluation of the tenders after they are returned, the common items that the employer should look out for and the practice of price negotiations in the industry.

Chapter 7 describes the tender award process after the successful tenderer is determined.

Chapter 8 gives a brief review of the latest statutory requirements and their implications.

Chapter 1- Background

1.1 Construct for Excellence – Report of the Construction Industry Review Committee

The Construct for Excellence Report published by the Construction Industry Review Committee made a number of recommendations for improving the procurement of construction works/services. A Task Force was established by the Construction Industry Council under the Committee on Construction Procurement to review the current practices on the selection of consultants and contractors and to prepare Reference Materials recommending feasible approaches and criteria for their selection. Task Force members comprised employers, consultants, contractors and other relevant stakeholders in the construction industry who contributed their expertise to the preparation of the Reference Materials. Note that this particular Reference Material focuses on recommendations on selecting contractors for construction works only. The recommendations for selection of consultants are under a separate publication.

1.2 High Construction Costs

According to publications by a number of international cost consultancy companies, the construction cost in Hong Kong is among the highest in the world. This is due to many factors including high standard of finishes and equipment normally adopted for projects in Hong Kong, requirements due to local legislation, low adoption of dry and prefabricated components, high labour costs and reduced efficiency due to an aging workforce etc. Under such circumstances, an appropriate procurement process would be essential for obtaining a reasonable price for the desired construction works.



Figure 1.1 International Construction Cost Table: Hong Kong ranks 3rd (Source: Arcadis, HK)

Tendering is the most common process to engage contractors to carry out construction works. Many institutions and public bodies mandate that contract procurement must follow an approved tendering process to ensure that the awarded price is “fair and reasonable”. To ensure good results, the tendering process should be conducted in an appropriate manner: (1) sufficient competitiveness; (2) prevention of corruption or collusion; (3) clearly defined scope and terms and (4) balanced risk allocation between the employer and contractor.

It should be noted that whilst the employer will incur costs in preparing a tender, the contractors tendering for the job will also incur costs in pricing and preparing their tender submissions. For tenders without bills of quantities (BQ), the contractors will have to deploy staff or outsource the measuring of quantities for them to price. In design and build tenders, they may have to employ architects, engineers or other specialist consultants of other disciplines to carry out the design for them. Such costs can run up to millions for each contractor. Employers do not normally compensate tenderers for their costs if they fail to win the contract, therefore all such costs end up as general overheads to contractors. Such costs will increase the overall price level of construction works in Hong Kong. It is therefore beneficial to all parties that tenders are carried out efficiently and properly to minimize the overall cost to the industry as a whole.

1.3 The Local Construction Industry

The construction industry in Hong Kong is a fragmented market that consists of main contractors and numerous works and labour

subcontractors. The construction team on site would normally consist of three to four layers of sub-contracting, the lowest being the labour only subcontractors. According to the Census and Statistics Department, there are 24,841 registered construction companies in 2017. The total workforce of the construction industry in the same year was approximately 340,000. Main contractors normally employ mainly management and supervision staff and have only a minimal number of site workers as full time employees. The bulk of the site labour is provided by subcontractors as required for the projects that the main contractors manage to secure. Such structures keep overheads low and help the main contractors to ride over the troughs and peaks of the construction workload cycles. Many subcontractors are relatively small and would therefore not have the capability to bear any major risks. The contractual risks laid on the contractor will therefore have to be mainly borne by the main contractor itself as the potential to transfer the risks to its subcontractors will be limited. This element will be particularly significant in periods when construction costs are rising or falling faster than normal.

It is common practice in Hong Kong to outsource construction works on a project-by-project basis. The biggest single employer is the Government. Other employers include large corporations, e.g. MTR Corporation and Airport Authority, property developers, non-government organizations, through to small client bodies, including incorporated owners corporations. Unlike in some countries where property developers tend to construct their own projects in-house (especially for residential projects), developers in Hong Kong rely a lot on outside contractors to do the construction works, even though they might have an in-house construction arm. This is particularly true for joint venture projects involving two or more property developers, which is a popular practice in Hong Kong.

Construction expenditure is split between new capital works and repair and maintenance works. The total value of construction works completed in 2017 was HK\$149 billion, of which around two thirds were capital works and one third were maintenance and repair works. Note that the contractor base for new capital works and repair and maintenance works are quite separate and are normally procured differently also.

GROSS VALUE OF CONSTRUCTION WORK PERFORMED

HONG KONG

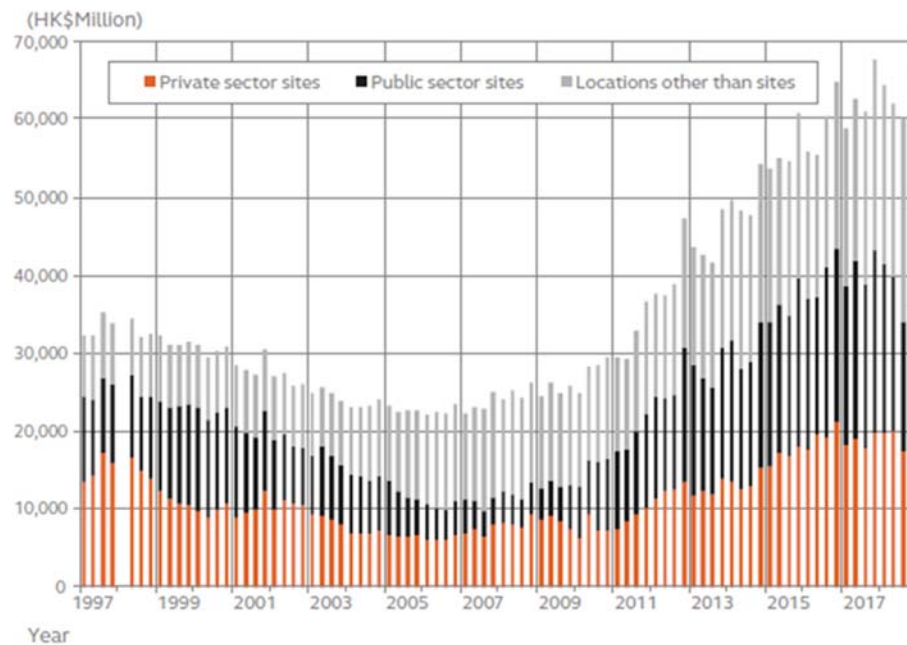


Figure 1.2 Gross value of construction works performed in Hong Kong (Source: Arcadis, HK)

Different employers will have different procurement practices and house rules. These are affected by the nature of the construction works they normally do, the scale and their compliance requirements. They are also affected by whether the employer is looking to derive long or short-term benefits from their procurement practices. As employers are the primary drivers of construction demand, their practices will have significant effect on the Hong Kong construction industry.

To summarize, the workflow of a typical procurement process would be as follows:

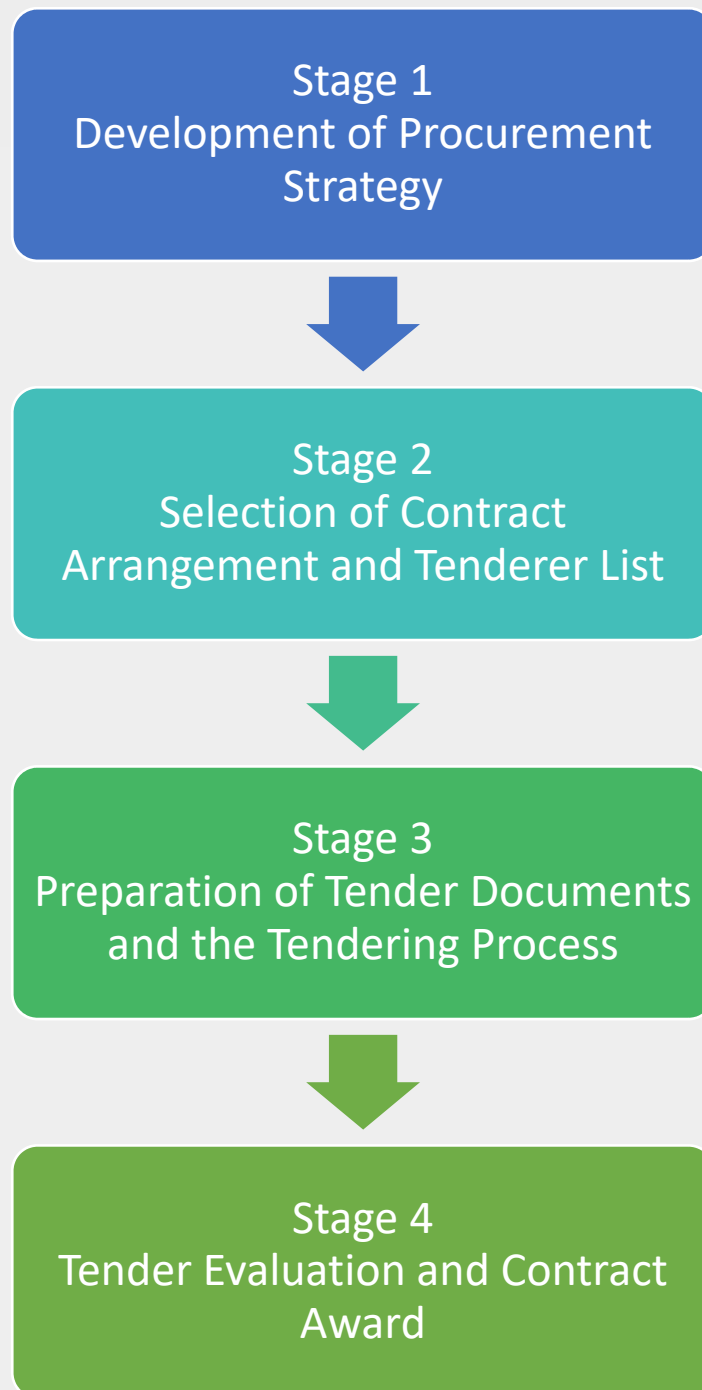


Figure 1.3 Workflow of procurement process

Chapter 2- The Procurement Strategy

2.1 Considerations in the Procurement Strategy

When developing a procurement strategy for a particular project, the following factors should be taken into consideration:

1. **Type or Nature of works:** What type of works is being pursued (civil, building, foundation, specialist works, etc.)? The extent of the work scope under some types of works are more uncertain than others in the tendering stage (e.g. civil vs building). It might be inappropriate to aim for a fixed price contract due to the uncertainties. Some might be so specialized that there might be limited alternative procurement route.
2. **Size and complexity of the project:** The size and complexity will affect the contractual setup in the procurement documents. Whilst it might be sufficient to use drawings only to define the scope of works for a small scale fitting out project, this would prove difficult when the project exceeds a certain size and complexity. The time required to complete the works would also affect the contractual setup for the project due to the extra uncertainties that might be involved (e.g. fluctuations in construction cost).
3. **Employer's experience and capacity:** The employer's capability to manage and supervise the project should be assessed. If the employer lacks the necessary in-house expertise to manage the construction works, they should employ relevant professional consultants to assist or, in the case of minor works, carry out the works in the most simple and straightforward manner, e.g. call for quotes only when all designs are completed and requirements defined.
4. **Economic conditions:** This is the most often neglected factor when preparing a procurement strategy. A procurement strategy tailored to suit the prevailing economic conditions when the works are tendered will either bring significant benefits to the employer or help the employer to avoid significant risks that may be detrimental to the project.

2.2 Nature of the Project

The nature of the project will dictate what type of contract arrangement should be adopted.

1. **Civil Engineering Projects:** The extent of works in civil engineering projects are usually less certain at the tender stage. Bills with “provisional quantities” (approximate quantities to be Re-measured later after the works are performed) would normally be used to obtain the rates for use in the Re-measurement stage.

Design and build arrangements are also quite popular in civil engineering projects where different method statements and the use of different machinery will affect the construction cost significantly (e.g. in piling and bridges). This arrangement will allow the contractor to adopt the method that is most appropriate to its skill and machinery in hand in lieu of an engineer design that it will have to cope with.

2. **Building Projects:** For normal building projects, like residential or commercial developments, if the design is reasonably complete at the tender stage, the employer can opt for a fixed price contract with or without BQ. Provisional quantities might still be used to cover elements that are yet to be designed (e.g. the external works).

Design and build arrangements can be adopted for building projects which require specialized expertise of the contractor to be integrated into the design, e.g. in projects adopting Modular Integrated Construction (MiC) technology.

3. **Industrial Facilities:** Simple buildings like factory or storage sheds in industrial facilities may adopt fixed price contracts with or without BQ. If the building have minimal architectural input, the employer can adopt a design and build arrangement to deliver the highest certainty in cost and time.
4. **E&M Projects:** E&M works in building projects are normally either embedded in the main contractor works or tendered as separate nominated sub-contracts under the main contract. Due to its specialized nature, the tender drawings for E&M works are normally

schematic and the E&M contractor is tasked to prepare the final construction drawings. The works are therefore normally procured under a lump sum without BQ arrangement with corresponding technical submissions.

Major E&M infrastructure works (e.g. large-scale filtration or treatment plants) normally comprise proprietary equipment or systems. These will therefore normally adopt a design and build contract arrangement.

5. **Alteration and Additional Works:** Alteration and additional works are normally treated as minor building works (it is recommended that the “Standard Form of Minor Works Contract” be used for this type of works). The drawings and specifications should clearly identify and specify the extent of works required and a schedule of rate (SoR) would normally be adopted for this type of work.
6. **Maintenance Works:** Apart from specific alteration and additional works, regular maintenance works are normally covered by term contracts that are set up in anticipation of the maintenance works required. These would adopt a SoR arrangement where potential maintenance tasks would be listed for the tenderer to price against. Works orders will be issued for any works to be done and the price of each will be measured and assessed according to the rates inserted in the SoR.

2.3 Size and Complexity

When the project exceeds a certain size or complexity, the existing capabilities of the contractors will have to be considered. Joint ventures between contractors to boost their capabilities might have to be encouraged in the expression of interest (EOI) stage for ultra-large scale projects.

It is undesirable for a contractor to take on work that exceeds his ability to handle. Most projects in Hong Kong do not have advance payments, contractors are normally paid 2 to 3 months after the works are done on site. This imposes high financial burden on the contractors.

If the project is too large or complex for a single contractor, e.g. for a “Group C”^{*} contractor, to undertake, it might make sense to break it down into smaller sections so that more contractors can tender for it, increasing the competition to obtain a better price. Note, however, that such arrangement might mean extra co-ordination work or risk for the project management team as additional contract interfaces increase the likelihood of monetary and time claims due to possible unclear division of responsibilities among the contractors and knock-on effects of the performance of a contractor on the others.

On the other hand, if the project size is too small, it might make sense to combine it with another nearby project to make it large enough to attract larger and more established contractors, which the employer has more confidence in.

2.4 Experience and Capability

Government bodies, public institutions and large property developers all have their own preferred procurement approach. This preferred approach is defined by their existing in-house experience and capability. For example, MTR Corporation and Airport Authority tend to procure design and procurement services only for their projects and retain construction supervision to be discharged by their own in-house team to ensure quality and control. On the other hand, Government Departments normally procure full services from their consultants, entrusting them to supervise the contractors whereas their own in-house staff would monitor and check the works of their consultants. There is no hard and fast rule on how the work should be split between outside consultants and in-house staff. The important thing is once the split is decided upon, the relevant experience and capability of the staff undertaking the work must be ensured to be appropriate.

^{*} The Development Bureau maintains a List of Approved Contractors for Public Works. Contractors in the List, unless suspended, can tender for public works contract in the works categories and groups for which they are approved. There are 5 Categories of projects : Building, Port Works, Roads and Drainage, Site Formation and Waterworks; and 3 Groups of Contractors:

Group A for contracts of value up to HK\$100m

Group B for contracts of value up to HK\$300m

Group C for contracts of value exceeding HK\$300m

2.5 Economic Conditions

The construction market in Hong Kong rises and falls in economic cycles. The peak and trough of these cycles can range from -30% to +80%. This causes cost fluctuations and brings high risks to contractors.

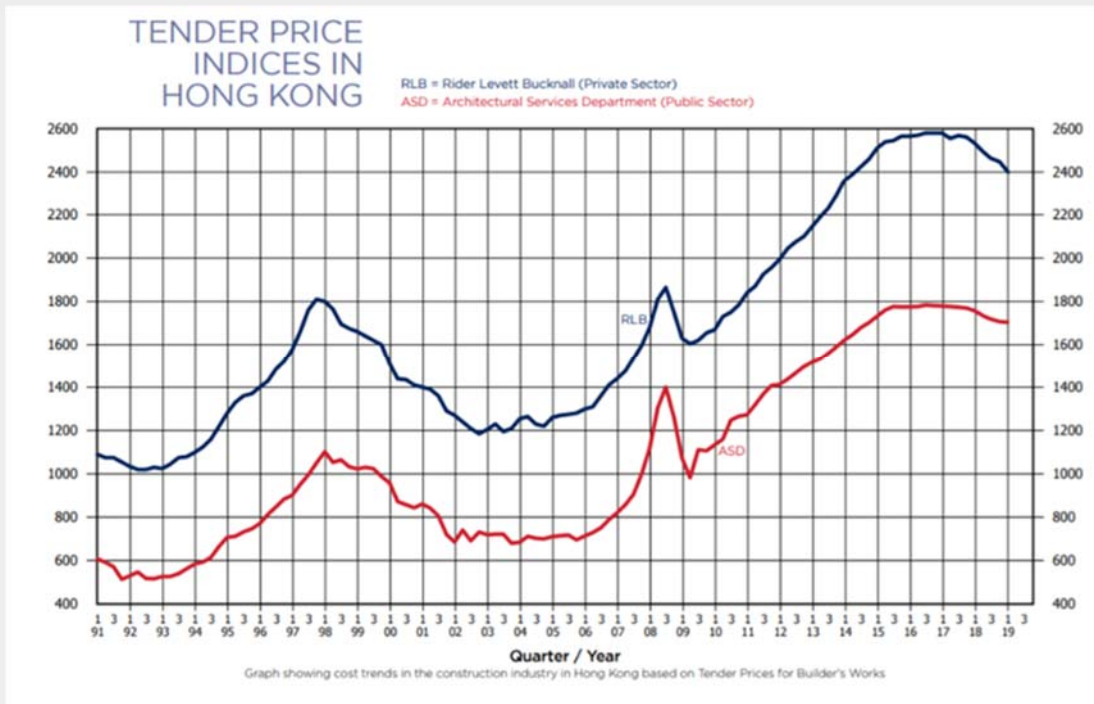


Figure 2.1 Tender Price Trend for Hong Kong (source: Rider Levett Bucknall)

When the economy is low and contractors are hungry for work, the selection of tenderers will become more important to avoid certain under-qualified contractors “buying work” by submitting unrealistic tender prices to win the project. Unreasonably low tenders usually end up in aggressive claims, disputes or sub-standard works as the contractor tries to close the gap in cost. The delay caused to the programme or the drop in quality will do much more damage to the project than the apparent savings made in the tender stage.

The inclusion of fluctuation clauses in the contract is an effective manner to minimize economic risk to the contractor. Fluctuation clauses come in many different types. Some calculate the adjustments to be made when the actual cost of specified labour or materials exceeds a pre-determined range (say +/- 10%). The difference in cost is applied to the actual quantities used. Others rely on specified formulas utilizing publicly

announced statistical data. It should be noted, however, that no fluctuation compensation method can cover the economic risk to the contractor in full and the contractor will still have to allow for and bear the remaining risks under the method adopted. When the fluctuations in prices become excessive, alternative procurement approaches should be considered. In a major property development during the 1998 Asian financial crisis, when construction costs were dropping fast, the relevant professional consultant used a cost-plus contract arrangement for the project to take full advantage of the decreasing price trend as the works were being sub-contracted out during the process of the construction period. An estimated 10% savings on the overall cost were made due to that approach. A cost-plus contract is normally used only for emergency work where the scope of work cannot be well defined yet but work has to commence immediately.

On the other hand, when the economy is high and construction work is abundant, tenderers will shy away from risky projects or tenders that carry high tender cost, e.g. those that do not provide a BQ. In such periods, it would be beneficial to break down the works into smaller packages according to specialty, e.g. piling works, finishing works etc. to be contracted separately, to reduce the risks to general contractors.

In extreme cases when the market is very vibrant, prices will tend to be very volatile (e.g. as in the case of Macau in the 2000's when construction demand significantly exceeded the local construction capability). Under such conditions, tenderers would tend to submit overly conservative pricing to cover for potential escalations in cost when being asked to submit a lump sum tender. The employer might have to use a construction management contract arrangement to reduce the risk to contractors and avoid premium in the tender price.

2.6 Selecting the Right Contractor

The procurement strategy shall determine the tendering programme and the approach to be taken in order to select the most appropriate contractor for the project.

Contractors play an important role in delivering a successful project and it is therefore worth taking all the care and time to select the right contractor. The procurement and selection process might take a long time and is often underestimated in the overall development cycle. The timing of the tendering process is also important: too early and the tenderer runs the risk of future price escalations and might be disinterested; too late might leave insufficient time for interviews and negotiations if things become complicated, e.g. when the tenders come back over budget and cost savings need to be done. The right contractor engaged at the right price and under the right terms will go a long way to ensuring a successful project.

Chapter 3- Contract Arrangement

3.1 Contract Arrangements

The selection of the contract arrangement for a project shall, apart from affecting the tenderer's pricing and submission of his tender, determine how the project shall be administered, supervised and completed in the future. It must therefore be determined with care.

The contract arrangements commonly adopted for construction projects in Hong Kong are tabulated below.

Traditional	Lump Sum Contracts	with Bills of Quantities	- Most traditional building works by public sectors and major private contracts
		without Bills of Quantities	- Relatively small and simple building projects; typically in existing building alterations and additions works - Also commonly used in E&M contracts - Higher risk for large-scale projects adopting this approach
	Re-measurement Contracts	Approximate Bills of Quantities	- Works with unforeseeable conditions e.g. civil works, piling works
		Schedule of Rates	- Term contract works or minor works e.g. term maintenance contracts
	Cost Reimbursement Contracts		- Urgent projects such as emergency repair works
Non-traditional	Design and Build Contracts		- For complicated or specialized works - When it is desirable to have early Contractor involvement for design and planning - Designed and built by the Contractors but independent design checker would be hired for monitoring purpose
	Construction Management Contract		- For large-scale projects or projects that require Contractor's construction and management expertise at an early stage

Figure 3.1 Overview of common contract arrangements

Traditional contract arrangements refer to methods where the employer employs consultants to carry out the design of the project and then employs a contractor for execution of the works in accordance with the design approved. These approaches are used for the bulk volume of projects in Hong Kong, including Government and private projects, and are applicable to building, civil engineering, mechanical engineering and fitting out works etc.

With the rapid development in construction technology and financial arrangements, different tendering approaches have been developed overseas and introduced to the construction industry in Hong Kong. These routes are collectively classified as **non-traditional contract arrangements**.

3.2 Lump Sum Contract Approach

In lump sum contracts, the contract sum is agreed when the parties enter into contract. Lump sum contracts are sometimes also referred as “fixed price contracts”. It should be borne in mind that it is unusual for the contract sum in construction projects to be absolutely “fixed” as that for a merchandise, e.g. a car. The uncertain nature of construction projects makes it necessary that the employer retains the right to make changes during the construction process and the long duration of the projects call for reimbursement arrangements for climate and/or economic risks. Most, if not all, construction contracts will include mechanisms to increase or decrease the contract sum due to variations made and/or fluctuations in cost of labour and/or materials due to inflation or deflation during the contract period.

There are two types of lump sum contracts which are most commonly adopted in Hong Kong.

Lump Sum Contract with Bills of Quantities

Under this approach, the contractor undertakes to carry out the works in accordance with the contract drawings and specification as described in the BQ for a lump sum. The contract sum is derived from the total cost of the items in the BQ. If there is any discrepancy between the items in the BQ against that shown on the drawings or described in the specification, the contract sum will be adjusted to match the works

shown on the drawings or described in the specification (these are normally called “BQ errors”^{*}).

As the BQ defines what is included in the contract sum and is part of the contract documents, the quantities must therefore accurately quantify the works to be done and clearly describe its extent. To do so, all measurements need to be prepared in accordance with a defined protocol (e.g. the Standard Method of Measurement issued by the Hong Kong Institute of Surveyors).

The BQ might include “provisional quantities” to cover items that are known to be needed but not yet designed in detail (e.g. cat ladders or other minor miscellaneous works). It can also include provisional sums to cover whole elements of work that are not yet designed at the tender stage (e.g. the external works in a project). It supplements the drawings and specification to ensure the returned tender price covers all works to complete the project under the contract as far as possible.

Due to its importance, the BQ should be prepared by professional quantity surveyors to ensure they are complete and in order.

A lump sum contract approach with BQ is widely welcomed by contractors as it reduces their tendering cost and relieves them from the risk of potential measurement errors that may be incurred during their measurements within the short tendering period. It is therefore generally adopted for new construction works of a scale that makes it worthwhile to employ a professional quantity surveying consultant to carry out the cost management work. These include the bulk of new construction works by the public sector and major private developers. The approach gives the employer benefit of better price security with fairer risk allocation between the parties.

^{*} It should be noted, however, that under normal circumstances rectification of BQ errors would not necessarily mean incurring extra costs to the employer. In case of under-measurements, the contract sum would have had included the cost if the under-measurements were not incurred in the first place. On the other hand, in case of over-measurements, the mechanism allows the employer to deduct the value of the over-measured items from the contract sum.

Lump Sum Contract without Bills of Quantities

Under this approach, the contractor is required to undertake the works based on the drawings and specifications for a lump sum without BQ. The tenderers are normally required to provide a breakdown of the lump sum in a SoR. Only the unit rates in the SoR form part of the contract which is used to evaluate variations.

The SoR might or might not require the tenderer to include the estimated quantities used by them to build up his tender price. Inclusion of quantities will provide a correlation of the rates quoted to the submitted tender price, restricting the tenderer from pricing them unduly high (or low). Obviously, the quantities need to be reasonably accurate to fulfil this purpose. They should therefore be checked accordingly. As the quantities are estimated by the tenderer, their completeness and accuracy are his responsibility. The quantities are provided for reference only and would not form part of the contract. It must therefore be remembered that in such contracts, unlike those with BQ, the drawings and the specification define the contract sum. The SoR and the tenderer's estimated quantities, if any, have no relevance in this. Therefore if certain typical but essential works (e.g. breaking of pile heads and straightening of starter bars) were omitted from the drawings or specification, such works will be taken as additional works when they are later ordered even if the tenderer has included an allowance for them in his SoR.

It is therefore important that in such contracts, the drawings and specification are prepared as complete as possible.

While using the SoR reduces the workload in the tender preparation stage, extra work will be required to check that the quantities submitted by the tenderers are reasonably accurate to ensure the rates are not over-priced or under-priced.

Due to the difficulties in assessing SoR tenders, the SoR approach is normally used for relatively simple building projects and specialist projects which are unsuitable for BQ as they involve significant detail design by the contractor, e.g. E&M contracts. However, in pursuit of price certainty, there is an increasing trend to use the SoR approach by property developers for larger construction projects. When doing so, it

should be borne in mind that SoR contracts require the drawings and specification to be more complete for reasons stated above. In order to get the best of both worlds, some employers insist that the quantity surveyor should also provide reference quantities to assist the tenderers in their compilation of the tender. The quantities will be stipulated as “for reference only” and the tenderer will be allowed to change the reference quantities if they deem it necessary. However, this practice runs the risk that if the quantities were under-measured, the contractor may claim that it was misled by the inaccurate information. No court case on the validity of such claim is available yet. On the other hand, if the quantities were over-measured, the employer will not be able to deduct the over-measured cost as it would be specifically stated that the quantities are for reference and do not form part of the contract.

3.3 Re-measurement Contract Approach

In re-measurement contracts, the contract sum is ascertained by measurement of the actual works done and valued at the rates in the bills of approximate quantities (also called bills of provisional quantities) or in a SoR included in the contract.

Re-measurement Contract based on Bills of Approximate Quantities

Under this tendering approach, the tenderer submits a tender price based on BQ that consist of approximate quantities prepared by the employer. The selected contractor then carries out the work required, and the actual works carried out are then measured and priced at the rates contained in the bills of approximate quantities to form the final contract sum to be paid to the contractor. This approach is normally used where the actual scope of works is uncertain or the exact quantities of works cannot be determined in advance, as in most civil engineering or ground investigation projects, or where the urgent nature of the project does not allow adequate time for detailed design and firm quantities to be made available.

The approximate quantities included in the contract serve to provide a competitive baseline for the submission of tenders and give a fair indication of the ultimate cost.

Re-measurement Contract based on a Schedule of Rates

Under this tendering approach, the tenderer submits his tender based on a single percentage or percentages mark-up against a pre-determined SoR prepared by the employer, with or without a base lump sum for overheads. The selected contractor carries out work ordered under work orders issued for individual tasks as required over a specified period of time. The work orders are measured and priced at the marked-up (or marked-down) unit rates in the SoR.

The pre-determined SoR consists of a list of items that may be ordered during the specified period of time.

This approach is normally used for term maintenance contracts. As the scope of maintenance works over the prescribed period is unknown to anyone, including the employer himself, the tenderer will tend to speculate which types of maintenance works will have a higher chance of occurring and price the items on that type of works higher. Assessment of the tenders returned therefore cannot be based on the percentage mark-up and/or base cost for overheads quoted alone.

3.4 Cost Reimbursement Contract Approach

In cost reimbursement contracts, the price to be paid to the contractor is determined by the actual cost (normally called the “prime cost”) incurred by the contractor in carrying out the works, plus an agreed amount to cover overheads and profit. This approach is used where the requirements can only be in general terms because of the urgency of the works, such as urgent repairs or works in an emergency as the time available to select a contractor for the works can be very short. There are a few variants of this approach:

Cost plus percentage: The contractor carries out the work and is paid all cost plus a fee, calculated as a percentage of whatever the total cost may be, for overheads and profit.

Cost plus fixed fee: The Contractor carries out the work and is paid all cost plus a lump sum fee for overheads and profit.

Cost plus fluctuating fee: In this approach, the fee paid to the contractor fluctuates in inverse ratio to the final total cost, i.e. the percentage of the fee reduces in a sliding scale when the total cost to be paid increases. Note that the sliding scale will have to be defined for each project according to its scale and characteristics.

Cost plus target price: Similar to cost plus fluctuating fee, except that the fee percentage increases when the final total cost is lower than the pre-determined target price and decreases when it exceeds the target price.

The “cost” or “prime cost” in cost plus contracts is calculated based on the actual cost for labour, materials and plant employed by the contractor to carry out the works. Due to the urgency of the works, no pre-approval by the employer or consultants is normally required and the actual cost is substantiated by the receipts paid for by the contractor. As the contractor will receive more fees (under the percentage fees basis) when the total cost incurred increases, it is obvious that cost reimbursement contracts do not give much incentive for the contractor to spend less. The cost plus fluctuating fee and cost plus target price approaches try to address this problem.

Note that the target price concept can be applied to other contract arrangements, e.g. in lump sum contracts to act as an incentive for the contractor to propose alternative materials or construction methods to achieve savings for the project. In cost reimbursement contracts, it is exceptionally effective as the contractor has a much higher degree of decision on how the works should be carried out.

3.5 Design and Build Contract Approach

A design and build approach is where a single contractor is required to undertake both the design and construction of the whole project for a lump sum. With this arrangement, the contractor would be in control of all aspects of the project including the design, construction planning, construction, organization, and subletting so long that it meets the employer’s design brief.

One of the greatest advantages of design and build contracts is that it offers a single point responsibility: anything that goes wrong is borne by

the contractor as it is in full control of both the design and construction works. No more finger pointing among the various parties in the project team. It also allows the contractor to carry out the works in the most efficient manner. Adoption of innovations would also be encouraged. On the other hand, design and build contracts place significant liabilities and financial burden on the contractor and therefore only a few contractors might be qualified to undertake the project, reducing the competitiveness of the tenders called.

There is an unsubstantiated belief that if the whole project is contracted as design and build, there will be advantages of early commencement and greater certainty of cost. The truth is it will depend on the type of project to be constructed. If the project is for simple functional driven buildings, e.g. manufacturing or storage sheds, that require low architectural input, a design and build approach could deliver the advantages stated above. However if the project is a sophisticated building which has high architectural input, e.g. residential, commercial or hospitality projects, the time required to prepare a detailed enough design brief to control the final design by the contractor would take considerably more time than a traditional construct only contract. Apart from the time to prepare the design brief, a much longer tendering period would be required to allow sufficient time for the tenderers to come up with their designs. Public buildings using a design and build arrangement will normally allow 3 to 4 months for the tender vs. the normal 4 to 6 weeks for tenders with BQ. After the tenders are returned, extra time would also be required to assess the design and hold interviews with the tenderers to clarify the design details for the various schemes submitted by each tenderer. All in all, the total procurement time required in design and build tenders for sophisticated projects would definitely not be less than traditional construct only tenders.

Obviously the choice to adopt a design and build contract or not would depend on many factors other than the procurement time required, e.g. the degree of technical excellence and contractor's expertise required to integrate into the design itself. In terms of cost, design and build contracts do offer a higher degree of certainty. However, it must be noted that assessment of design changes made after award of contract is more difficult than contracts based on BQ or SoR and tends to be more expensive. This makes the completeness and accuracy of the design brief, the document that controls the final design, so important.

Apart from the whole project contracted as design and build, this arrangement is popularly applied to contracts for separate specialized sections of work in the project. These include lifts, curtain walls and security systems etc. They can be separate contracts, nominated sub-contracts or work items embedded in traditional construct only main contracts. Due to their proprietary nature, construct only approaches are not suitable.

3.6 Construction Management Contract Approach

Under this approach, the contractor is paid a fee to manage the construction of a project on behalf of the employer. The contractor adopts the role of construction manager and acts as the main contractor for the project. He is responsible for all site activities, programming and procurement of works contractors for the required work packages on the employer's behalf, monitoring and supervising its implementation until the works are completed and handed over to the employer.

In construction management contracts, the works contractors, or trade contractors, contract directly with the employer. The construction manager therefore does not bear any financial risks for the construction works and is treated similar to a consultant in the project team. This gives the contractor a closer relationship with the design consultants and allows the contractor's construction and management expertise to be incorporated into the design more easily. Due to such reason, the construction management contract approach is most suited for projects which require contractor's input in the early stages of the project.

3.7 The Contract

The contract arrangement determines the working relationship between the employer and the contractor on the project. Every piece of construction work must be governed by a contract: be it a multi-volume contract running into thousands of pages or just a single page one. The contract must at least cover the following areas:

- The scope of the works to be done. This can be by description or drawings.
- The time by which the works should be completed and handed over.

- The price to be paid by the employer to the contractor for work done and how and when to pay.

Obviously, for larger projects there will be many more additional terms covering other rights, liabilities and necessary mechanism to handle design changes, price fluctuations, natural risks etc. Most of these additional requirements will be catered for by different standard contract forms which are described below.

Although legal contracts can be formed verbally or by actions, it is strongly recommended that all construction contracts must be in writing to protect the rights and liabilities of both parties. Construction works have too many variables to be left open-ended. This is also true for sub-contracts between the main contractor and the subcontractor. As many subcontractors are relatively small and specialized, sub-contracts tend to be much simpler and straightforward than that of main contracts between the employer and the contractor.

3.8 Standard Contract Forms

The traditional approach to drafting construction contracts is to adopt one of the numerous standard forms of contract available on the market and supplement it with special conditions to tailor it to suit the purpose of the particular project. Standard forms are normally drafted by professional institutes in conjunction with construction trade associations and will have gone through a public consultation process before putting in use. They would therefore have widespread acknowledgement and understanding within the industry. Special conditions will be included as a separate section to allow the tenderers to easily identify the changes made to the standard terms so that they can properly allow for the effects in their tender price.

Chapter 3 - Contract Arrangement

The following standard forms of contract are commonly used in the private sector in Hong Kong:

- Agreement and Schedule of Conditions of Building Contract for use in the Hong Kong Special Administrative Region, With Quantities, 2005 Edition
- Agreement and Schedule of Conditions of Building Contract for use in the Hong Kong Special Administrative Region, Without Quantities, 2006 Edition
- Agreement and Schedule of Conditions of Nominated Sub-contract for use in the Hong Kong Special Administrative Region, 2005 Edition
- Agreement and Schedule of Conditions of Nominated Supply Contract for use in the Hong Kong Special Administrative Region, 2005 Edition
- Standard Form of Contract for Minor Works, 2003 Edition
- Standard Form of Contract for Decoration, Repair and Maintenance Works, 2008 Edition
- Standard Form of Contract for Maintenance and Renovation Works, 2013 Edition

Government normally use their own Standard Forms for public works projects and public housing projects*. These include, for example:

- General Conditions of Contract for Building Works, 1999 Edition
- General Conditions of Contract for Civil Engineering Works, 1999 Edition
- General Conditions of Contract for Design & Build Works, 1999 Edition
- General Conditions of Contract for Electrical & Mechanical Engineering Works, 1999 Edition
- Sub-contract for Building Works, 2000 Edition
- Hong Kong Housing Authority General Conditions of Contract for Building Works, 2013 Edition

*

https://www.devb.gov.hk/en/publications_and_press_releases/publications/standard_contract_documents/index.html

Recently, the Government have also been adopting the New Engineering Contract (NEC) suite of standard contracts written by the Institution of Civil Engineers*. These include:

- NEC Engineering and Construction Contract
- NEC Engineering and Construction Subcontract
- NEC Term Service Contract

A successful construction project calls for a team effort by different stakeholders (the employer, contractor, subcontractors and consultants) where the members in each team assembled for a new project are different. Understanding of each party's rights and responsibilities right from the start would therefore be very important. The use of standard forms minimizes the learning curve as all team members will have a good understanding of its terms and arrangements through previous projects using the same standard form and would therefore lead to less disputes. Note also that disputes arising out of most standard forms have been trialled in courts, therefore giving greater certainty on the implications of its terms, reducing risk to both contracting parties.

Some employers, especially large developers and public development bodies, would choose to draft their own construction contracts, tailored to their requirements. The contracts would be written so that they specifically address certain critical items that the employer would have a particular preference (e.g. the validity of contractor claims or the use of named subcontractors in lieu of nominated subcontractors etc.). To ensure that such contracts meet their intended purposes, it is recommended that they should be drafted by professional construction solicitors or professional quantity surveyors that practise in the legal field. It should, however, be noted that until a specially drafted contract becomes widely acknowledged (as with Government contract forms), tenderers might find it risky and may price higher to allow for the extra risk perceived or just shy away from the tender itself.

Note that most standard forms prescribe the duties and obligations of the parties up to the expiry of the maintenance period which is normally 12 months after practical completion of the works. Nowadays, more and more employers in Hong Kong are starting to look beyond the direct

* https://www.devb.gov.hk/en/issues_in_focus/new_engineering_contract_nec/index.html. Note that both NEC3 and NEC4 versions are currently being used in the industry.

construction cost towards the whole life cycle cost. Alternative contract arrangements like Public Private Partnership (PPP) or Build Operate Transfer (BOT) cater for such considerations. However, such projects are normally very unique in nature that standard forms of contract that operate under these arrangements are not available. Procurement under these arrangements should be handled by professional consultants qualified in the respective fields.

3.9 Adopting New Technology

Most standard forms envisage a dual party relationship (i.e. the employer and the contractor) with other relevant parties (e.g. the architect, nominated subcontractors etc.) taking supporting roles only. Modification may be needed when adopting new technology to construction projects that changes the traditional protocols in administering contracts. Such new technology include the Building Information Modelling (BIM) system.

BIM is a new tool to holistically manage information relating to construction projects from planning stage, to design, construction and operational stages. At a project management level, BIM benefits cross-disciplinary collaboration by facilitating early engagement with the relevant disciplines. The construction industry is adopting BIM on a global scale and Hong Kong is chasing up on it. For details relating to BIM implementation in Hong Kong, reference may be made to other dedicated literature on the topic.

Many of government departments, large corporations, and private developers have adopted BIM or intend to adopt BIM in their projects by including requirements for the relevant technical support and/or experience from the tenderer. It is beneficial to include BIM models in the tender documents which can give tenderers a deeper understanding of the works but the depth of involvement would have to be in line with the readiness of the various stakeholders (the employer, consultants, the contractor and subcontractors). Relevant special conditions of contract to clarify the responsibility of the different parties in respect to the BIM information must be in place when any standard form of contract is used*.

* A standard form of contract for use with BIM is being drafted by the Hong Kong Institute of Surveyors and will be made available soon.

3.10 Key Factors Affecting the Selection of Contract Arrangement

To summarize, the key factors affecting the selection of contract arrangement include:

- The certainty of the work
- The completeness of the design
- The desired allocation of risk
- The urgency, scale and complexity of the project
- The importance of construction expertise
- The design flexibility required in the construction stage
- The development program
- The level of control and quality assurance required

3.11 Risk Allocations to be Fair

Risk management is a systematic process to identify, assess and manage risks to enhance the chances of a successful project outcome. Basically, there are four methods of handling risk that is identified:

- Avoidance
- Reduction
- Transfer
- Retention

Both parties would try to avoid and reduce risks to the project as much as possible.

Transfer of risks between the contracting parties is done through allocation of risks by the contract arrangement. Allocation of risks is one of the major factors that would affect the choice of contract arrangement for a particular project. In principle, to get the best results, risks should be allocated to the party who has the best control of that particular risk. However, sometimes allocations might be affected by corporate preferences or policies. For example, if cost certainty is the priority, lump sum or design and build approaches should be adopted. If time is most important, cost plus approaches should be used. If flexibility in the final design is important, Re-measurement approaches would be suitable. In

periods of financial uncertainty, construction management contract approaches would be desirable.

When designing how much risk should be allocated between the employer and the contractor, the capability of the tenderers to sustain the risks must be considered. Certain contractors will be in a better position to sustain more risks than others due to better technical ability to handle the risks, and/or stronger financial strength to bear the consequences if things do not work out entirely as planned. The threshold is that the contractor would still be able to complete and deliver the project even if the risks do occur. This is why design and build projects are tendered only by a selected few contractors in town that have proven capability and financial strength.

As tender documents are prepared by the employer or its consultants and only “conforming” tenders are normally accepted, the contractors actually have no say in how the risks are allocated to them. As there will always be contractors who would be willing to undertake risks beyond their withstanding capacity, it is very tempting for the employer to over-allow risk to the contractor (“scope creeping”). Eventually, when the risks do occur, such contractors will fail and the employer will be forced to bail them out to prevent larger damage caused by non-completion of the works.

3.12 Partnering

Remaining risks can be managed by adopting a partnering approach in the construction process.

It is generally accepted that if the contractor can carry out their works smoothly according to programme with minimal disturbance, costs to them will be more certain and lower, leading to better cooperation and less disputes with the employer. This is the underlying reason for the promotion of “partnering” in construction projects. Partnering has been implemented by the use of “Partnering Charters”, where the employer, contractor, subcontractors and consultants pledge to inform each other in advance of perceived changes or problems and to work together to resolve them in an efficient manner. However the “Partnering Charters” are only gentlemen’s agreements and do not form part of the contract. It

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does not confer any additional rights and liabilities upon the contracting parties and therefore may not work very well.

The partnering spirit is still being promoted in the industry. The Government has been testing the use of the NEC3 and NEC4 Standard Contract Forms to promote this spirit. The NEC contract is a collaborative form of contract that the contracting parties undertake in a spirit of mutual trust and cooperation. It encourages communication of ideas and collaborative efforts to mitigate problems and risks as they arise or are made known. Results from pilot projects by the Government have been promising.

In the case of uncertainties (risks that cannot be predicted properly and therefore unlikely to be controlled), e.g. riots etc., reasonable terms to deal with it in a fair manner should be provided in the contract.

Uncertainties would also include new legislations and regulations. The contract should also address how subsequent legislation (i.e. legislation enacted or revised after the contract is awarded) should be handled. Further discussion on this point is given in Chapter 8.

Chapter 4- The Tenderer List

4.1 Types of Tenders

There are two main types of tendering:

Open Tendering – any contractor who meets the prescribed qualifications can submit a tender.

Selective Tendering – contractors are selected and invited to submit a tender.

4.2 Open Tendering

In open tendering, an announcement for an invitation to tender is normally published on the company website or in a local newspaper inviting any interested contractor that meets the prescribed qualifications to submit a tender for the project. The interested contractor would normally be required to register his interest first. This offers an equal opportunity to any qualified contractor to submit a tender. The tender will be analysed and the tenderer's capability for the project will be considered after the tenders are returned. This type of tendering would create the highest competition and give the best price for the project.

Normally, one or more approved lists would be specified and the contractor will be deemed to have met the prescribed requirements if they are on one of the approved lists*. This would reduce the time needed to check the qualifications of the tenderers.

If no approved list is specified and contractors of all standards can participate, contractors of higher standard and capability will shy away as they perceive the less established contractors will submit cutthroat prices to win. After all, preparation of a tender does carry costs.

Due to this, construction projects of a certain scale would tend to establish an initial long list through an open invitation to EOI first. The

* For Government contracts, tender notices would be published online so that contractors not on the approved list may apply for admission to the list. Their tenders will be considered if they meet the admission requirements as at the tender closing date.

applicants will then be screened to form a short list for selective tendering.

4.3 Selective Tendering

In selective tendering, only contractors that are proven, by a pre-qualification process, to be appropriate for the project are invited to submit a tender. The employer will shortlist potential contractors from the list of tenderers that have expressed interest in the project. The shortlist is prepared based on the contractors' experience, reputation, resources and skills to do the work. Selective tendering is a popular method being used in Hong Kong for construction works.

4.4 The Tenderer List

The tenderer long list might be compiled from a selected approved list of contractors, or by an open or selective invitation to express interest by contractors with the appropriate qualifications. The invitation letter will consist of general information about the proposed contract and contractors will normally be allowed one to two weeks to confirm if they will submit a tender or not.

The Development Bureau maintains the Approved List of Contractors for Public Works* for building, port works, roads and drainage, site formation works and waterworks of different contract values, i.e. up to \$100 million, up to \$300 million or exceeding \$300 million. It is common for private developers to refer to this Approved List to form their long list.

It is important to confirm that the prospective tenderers are legally capable for the concerned works, i.e. Registered General Building Contractors for building works, Registered Fire Services Installations Contractors or Specialist Contractors for demolition, foundation and ventilation works etc. Reference should be made to the register on Buildings Department's and Fire Services Department's lists of Registered Contractors.

Some organizations and private developers would maintain their own tenderer list according to their project and corporation characteristics. For example, the Hong Kong Housing Authority (HKHA) maintains a

* <https://www.devb.gov.hk/Contractor.aspx?section=80&lang=1>

Counterparty Management Information System (COMIS) and has its own list of contractors for different types of construction works.

The initial number of interested contractors might be quite considerable and would normally be screened down to a manageable number (normally 5 to 8) to form a short list for the tender. Note that many corporations require a minimum number of tenderers to ensure competition.

4.5 Pre-qualification

The screening of interested contractors from the long list to form the short list is done through a pre-qualification exercise.

In the pre-qualification exercise, contractors are required to demonstrate that they possess sufficient resources, experience, and competence to carry out the project by providing their project experience and records on safety and quality control etc. to satisfy the employer before his tender invitation.

Information on four general aspects is commonly required to confirm the Contractor's abilities:

- Qualification (license, litigation, grade of Registered Contractor, safety records, suspension by Government departments etc.)
- Finance (annual statement, recent company accounts, recent 3 years' audited accounts etc.)
- Technical (project experience, company management team, type and no. of employed labour and owned plant, current workload, quality assurance policy, safety records etc.)
- Conflicts of interest (relationship with the employer's staff and consultants)

A pre-qualification questionnaire (PQQ) that contains a series of questions asking the prospective tenderers about their level of experience, capacity, and financial standing etc. is normally used to collect the required information to make the selection.

Please note that the personnel conducting the pre-qualification exercise should also declare any conflicts of interest with the contractors (or suppliers) that have expressed interest. Any personnel who has significant conflict should defer from handling the assessment works.

4.6 The Pre-Tender Estimate

Prior to the issue of the tender documents to the tenderers, it would be prudent to carry out a pre-tender estimate for the contract package to be tendered.

The pre-tender estimate is an estimation of the cost based on the works as described in the tender documents itself. This is different from the budget for the project which would have been done long before the design has been completed or might be holistic and include items that are not incorporated in the current tender. The purposes of this pre-tender estimate are:

- To ensure the works are within budget, e.g. if it is over budget, the work requirements should be revised;
- To act as a basis for assessing and comparing the tenders returned and measuring the reasonableness of the rates submitted;
- To confirm that the scale of the contract package corresponds to the capability of the Contractors selected to submit a tender (e.g. within \$100 million, \$300 million or more for contractors under the Development Bureau approved list)

Chapter 5 - Tendering Process and Tender Documents

5.1 Issue and Return of Tender Documents

In open tendering, when the tender is ready, the employer, or its consultants, will issue the tender documents to all tenderers that have expressed interest. Tenders are required to be deposited at a specified destination at or before a stipulated time (normally 12:00 noon or 5:00 pm before close of office hours) on the day for return. Any late tenders returned after the stipulated hour should be disqualified.

In selective tendering, tender documents will be issued to the tenderers that have been invited to make a submission only.

To ensure confidentiality, the tenders will normally be required to be returned in sealed envelopes and dropped into a specially made tender box. The tender boxes will be locked and will be opened only after the tender closing time and when the tenders are taken out for opening.

When setting the date for return of tender, it is recommended that reasonable working time should be allowed for the finishing of the tender submission by the tenderers, e.g. avoid the day immediately after any long weekend or holiday to minimize the need for the tenderer's staff to work over the holiday period.

5.2 Sale of Tender Documents

In occasional cases, the employer or the consultant might require interested tenderers to purchase the tender documents itself. This normally occurs in open tendering to give assurance that the party collecting the tender documents are serious enough to bid for the project. It is not a usual practice in selective tendering when the pre-qualification process would have confirmed the intention of the tenderers already.

When practised, the price charged for the tender documents should not be too high as it might deter interested tenderers to participate, reducing competition for the project. Normally the price charged should be

sufficient to cover the printing costs only – not the cost to prepare the document (which might include the professional fee of the consultant).

5.3 Tender Briefing / Workshop

Tender briefings provide an opportunity for the employer to address their concerns regarding the project, both on technical (e.g. standards) and non-technical (e.g. programming issues) aspects to the tenderers. Moreover, tenderers may make use of the briefing session to clarify points of uncertainty in the tender documents.

Important information, e.g. site restrictions, time restrictions, special requirements, major risks, etc. would be highlighted in the tender briefing. The face to face query and answer opportunity between the employer or its consultants and the potential tenderers provides an extremely effective forum to explain the difficulties of the project and the risks involved.

Despite the above stated benefits, tender briefings/workshops are not customary for most normal projects as the coming together of all potential tenderers allow them to know who have been invited and could lead to potential collusion between the tenderers.

Tender briefings/workshops should be arranged before the final short list is established. If held after the short listing for selective tendering is established, precautions should be taken to avoid potential discussions among the tenderers themselves, e.g. separate briefings might be done for each tenderer individually.

5.4 Tendering Period

For contracts with BQ, a tendering period of 4 weeks would normally be sufficient. If BQ are not provided and the tenderer has to measure their own quantities to prepare their tender, a longer tendering period, say 6 weeks, depending on the scale and nature of the project will be required.

For design and build contracts, as the tenderer will have to mobilize a design team to prepare the design, the tendering period required might be as long as 4 months, depending on the scale and complexity of the project.

5.5 Single Stage Tenders

In selective tendering, the invited tenderers would have been pre-qualified before they are included in the short list. Theoretically, all tenderers invited should therefore be capable of undertaking the construction works satisfactorily. If the contract period is fixed, the only factor they would be competing on would be the price. In such cases, the tendering exercise will be quite simple: the winner will be the tenderer that submitted the lowest price for the project.

When projects become larger and more complicated, the above process might not be adequate to protect the full interest of the employer. Each contractor might have different project teams and there might be more than one approach to the construction works. To properly assess the resources the tenderer promises to put into the project, the tenders may be evaluated under a two-envelope system.

5.6 Two Stage Tenders

In civil engineering projects, the cost of temporary works constitute a large portion of the total cost. In such cases, the tendering process may be broken down into 2 stages: the first stage based on the engineer's working method to establish a base price for negotiations and then the second stage (with a further shortened list of tenderers) to derive the contract cost after adopting the contractor's proposed method of construction.

5.7 Multiple Stage Tenders

The tendering process for special projects using a Public Private Partnership (PPP) or Build Operate Transfer (BOT) approach might be conducted in even more stages, each stage reducing the number of tenderers to enable effective negotiation, e.g. design, programme, finance, operation etc.

5.8 The Tender Documents

The tender documents in a normal building or civil engineering project will include:

- Conditions of Tender
- Form of Tender
- General Conditions of Contract
- Special Conditions of Contract
- Specification
- Drawings
- Technical Submissions
- BQ or SoR (as appropriate)

5.9 Conditions of Tender

The “conditions of tender” or “instructions to tenderer” lay down the terms that the tenderer should be aware of when preparing their tender. Common clauses will include:

- Name and title of the project
- How the tenders should be completed, sealed and returned
- Place and date for return of tenders
- Documents and information to be provided with the tender
- Handling of void or disqualified tenders
- Method of adjustment for errors found in BQ calculations

The terms in the condition of tender should not affect the rights and liabilities of the contracting parties after they have entered into the contract. However, they are normally retained as part of the contract documents to act as explanatory notes to possible relevant disputes that may arise.

5.10 Form of Tender

Note that the issue of the tender documents is only an “invitation to submit a tender” and the formal offer is the “form of tender” submitted by the tenderer, although it is drafted by the employer or its consultants. The form of tender will incorporate the following:

- The name of the employer to whom the offer is made
- The price for the works as stated in the other parts of the tender documents
- A statement confirming this is an offer to the employer like: “I offer to construct, complete and maintain the works in conformity with the conditions of contract, drawings, specification and bills of quantities”
- The contract period (either specified by the employer or inserted by the tenderer)
- The validity period of the offer
- Any warranties that will be provided outside the contract (e.g. performance bond*)
- A disclaimer by the employer that he will not be obliged to accept the lowest or any tender returned

The form of tender must be signed by an authorized person on behalf of the tenderer. Proof of the authorization (e.g. board resolution or authorization letter) may be required for large projects.

* There are two main types of surety bonds: On-demand Bonds and Default Bonds. An On-demand Bond can be called without providing proof of default by the contractor, substantiation of the losses incurred is not required and the bond sum would be paid upon notice. On the other hand, calling on a Default Bond would need both proof and substantiation and might take years before the employer receives payment. On-demand bonds are therefore more popular with employers (a sample can be found at the CIC website).

The bond amount for private projects in Hong Kong is usually 5% of the contract sum. For Government projects, this will range from 1% to 5%. It should be noted that for banks to issue On-demand Bonds, they would normally require the contractor to either place a fixed deposit of a similar amount or provide other assets as collateral warranty. There will therefore be a monetary limit on how many On-demand Bonds a contractor can provide, or willing to provide. In such cases, the requirement of On-demand Bonds might affect the enthusiasm of the tenderers and have a direct impact on the competitiveness of the tendering exercise.

5.11 General Conditions of Contract

The General Conditions of Contract will normally be one of the standard forms of contracts described earlier. The project specific data (e.g. the items listed in the appendix to the Standard Form of Building Contract) should be completed for the tenderer's information.

5.12 Special Conditions of Contract

The special conditions of contract modifies the general conditions to suit the particular project in hand. Conditions that are normally modified to suit individual employer's preference include:

- The handling of verbal instructions
- Items valid for claiming extension of time
- Items valid for claiming loss and expenses
- Insurance requirements
- Milestones and liquidated damages*
- Inclusion or exclusion of fluctuations
- Gain or pain clauses

The practice of using standard forms and grouping changes to the standard terms into a separate special conditions section increases the transparency of what changes have been made specially for the project, ensuring the tenderer takes notice of the full intent of the employer.

It should be noted that all clauses in the standard forms are written following discussions between various professional and trade association bodies and have their purpose. Unilateral amendments may have unexpected results, e.g. if extension of time is not allowed for any variations: when the architect issues instructions that have time delaying effects, he will not be able to assess and grant the necessary extension of time. The resulting dispute may have to be settled outside the contract, e.g. through litigation, which will be very costly for both parties.

* Liquidated and Ascertained Damages (LAD) should be genuine estimates of the loss to be incurred by the employer in case the contractor delays completion of the works without valid reasons. Exaggerated losses, classified as penalties, will not be enforceable in court. On the other hand, especially in commercial projects, although the genuine loss can be very large, if the full amount is used to set the LAD rate, it might deter contractors from participating in the tender, undermining the competitiveness of the tendering exercise. An appropriate rate should take into consideration the financial capability of the tenderers invited.

5.13 Specification

The Specification will normally comprise several parts:

- Preliminaries
- General Technical Specification
- Particular Technical Specification

Preliminaries

The preliminaries section will list the general requirements of the contract that will apply to the project as a whole, e.g. site constraints, particular project requirements like early handover section, works in sections, phase possession and other project risks that contractors should be aware of and price accordingly, site management team, site safety, water and electricity, access roads, machinery etc. A corresponding “preliminaries” section will be provided in the BQ or SoR (as appropriate) for the tenderers to price these preliminary items. As all projects have their uniqueness, the preliminaries section should be specifically written for each project.

General Technical Specification

A publicly available technical specification, e.g. the Government General Specifications, is normally used as the general technical specification. Certain large architectural firms or engineering firms have their own set of general technical specifications which they will use in projects handled by them.

Particular Technical Specification

As with special conditions of contract, the particular technical specification supplements and modifies the general technical specification to suit the requirements of the project on hand. Normally this section will include new technical requirements or materials that are not covered in the general technical specification to make the combined specification document complete.

5.14 Drawings

The drawings are the design drawings prepared by the architect and engineers as appropriate. The depth of details required in the drawings must be in line with the contract arrangement selected and agreed upon.

The drawings are to be read in conjunction with the technical specification to form a complete picture of the works required.

5.15 Technical Submissions

Technical submission schedules are normally incorporated in E&M service tenders where information is required for the brands and models of the equipment proposed for the systems.

Note that the consultant should review and be satisfied of the equipment proposed, as acceptance of the tender without any comments may be taken as acceptance of the equipment proposed. Also, when two or more brands of equipment are proposed, acceptance might mean ANY of the brands are accepted as complying with the specification and the contractor can choose which brand to use. If this is not the intention, it should be stated clearly so either in the tender documents or the letter of intent.

5.16 Bills of Quantities or Schedule Rates

The BQ or SoR (as appropriate) is the pricing portion of the tender documents.

If a BQ is provided, all items in the bills must be priced. If any items are not priced, it should be deemed to have been covered in the other priced items unless specifically stated as excluded.

The total figure in the BQ or SoR (if quantities are required) must be the same as that stated in the form of tender. If there is any discrepancy, the figure in the form of tender will take precedence and prevail. The prices in the BQ or the SoR will have to be adjusted to match the figure stated therein.

5.17 Tender Queries

Properly prepared tender documents should be complete and self-explanatory. Should any tenderer have any query, this would normally be raised as a query to the consultant.

The employer should request the tenderers to raise any queries they may have at least 14 days before the date for return of tenders to allow consultants sufficient time to respond. To maintain a common base for the tendering exercise, the queries, together with their relevant answers, must be issued to all tenderers at the same time for their information, although the query might have been raised by one particular tenderer only.

5.18 Tender Addendum

During the tendering period, issue of an addendum to either rectify identified errors in the tender documents or clarification of queries raised by tenderers may be necessary. Addenda should be issued only when absolutely necessary. Numerous addenda will disturb the work of the tenderers and lead to inaccuracies in their calculations. This is particularly true where a BQ is not provided and the tender is on a SoR basis. It is recommended that changes should be grouped together as far as possible to minimize the number of addenda issued. An extension to the tender period might have to be considered if the addendum significantly varies the tender document.

It is also recommended to set a deadline for the last tender addendum to be issued, for example for HKHA's tenders:

- Major addendum: At least 14 days before tender closing date
- Minor addendum: At least 7 days before tender closing date

This is to allow adequate time for the tenderers to review the addendum and prepare a proposal with a more realistic tender price.

5.19 Contract Period

The contract period set in the tender must be of a reasonable length of time that will allow the contractor to complete the works under normal circumstances. Due allowance for normal inclement weather and holidays etc. should be made. If the contract period allowed is unreasonably short, the tenderers might be discouraged to submit a tender or, might include the estimated liquidated damages in their price.

The length of the contract period have direct effect on the pricing by the tenderers. An unrealistic contract period could lead to irrational tendering results which might be detrimental to the project implementation.

5.20 Electronic Tendering

To align with the Smart City Vision, the Hong Kong Government is promoting electronic tendering for public works. The concept is to issue and receive tenders in electronic forms which will enable them to be used in tender analysis to assist the employer to select the best contractor for the project in a more efficient manner. After award of tender, the electronic data can then be stored into database programs to enable big data analysis of construction trends, enhancing estimates and budget setting for new projects.

The tendering flow in electronic tendering follows closely that of traditional tendering except that all information is stored and returned in electronic format rather than the traditional paper form, e.g. text in pdf format and drawings in CAD format etc. They might use digital storage media or directly transfer it over the web. The main concern in electronic tendering is its security and authenticity.

Electronic tendering for construction contracts are quite different from that for ordinary office supplies (e-procurement). To start, the contract sum involved are much larger so that the extra convenience offered by normal IT applications would not always seem worthwhile. The greatest benefit will be the transfer of electronic data between stakeholders to allow common data sets to be put to multiple uses along the design, tendering and construction process, e.g. pricing for the tenderers, tender analysis for the consultants, construction programming and procurement for the contractor etc. For electronic tendering to become popular, value-

Chapter 5 - Tendering Process and Tender Documents

added services must be available to all stakeholders: the employer, consultants, contractor and even subcontractors to incentivize them to change their working methods.

There are a number of software applications that enable tender documents to be prepared in electronic forms* but most quantity surveying practices still use Word and Excel to prepare their documents. Applications to create value-added facilities from the electronic data so created are being developed under the initiation of various Works Departments and major consultants.

* Available applications in Hong Kong include Atles Pro with its associated L10 platform, LISA, BMS etc.

Chapter 6- Tender Evaluation

6.1 Opening of Tenders

After the tenders are returned, they should be opened by the employer in the presence of a witnessing party. Normally this might be a representative from the finance department or from the consultant that prepared the tender documents.

Before the tenders are opened, the seals to the envelopes or packing should be checked to be intact. The names of the tenderers submitting the tenders should match those on the tender invitation list. Record of tenders opened will be completed and signed by all those present.

6.2 Confidentiality

Confidentiality during the tender evaluation stage must be upheld at all times until the contract is awarded. Measures that can be taken include:-

- Avoid leaking any information about the tenders to non-related staff or third parties.
- All tenders must be put away in a secure place when they are not used.
- All communications regarding the tenders done over the internet should be password protected before issued.
- All correspondence and reports issued in respect of the tenders should be marked as “CONFIDENTIAL”.

Deliberate leaking of information to any tenderer can constitute a breach of the anti-corruption laws in Hong Kong.

6.3 Tender Analysis

To start the analysis, each tender will first be examined to determine if it was returned in accordance with the requirements of the tender documents, for example:

- Complies with the conditions of tender, e.g. tender has been submitted on time.
- Technical submissions are submitted.
- All necessary documents (e.g. form of tender, warranties etc.) are duly signed as required.
- BQ or SoR have been completed.

It is important to check whether the tender is in complete compliance with the requirements of the tender documents or not. Non-compliances may include:

- Qualifications to the contract or specification provisions.
- Different contract period as shown in the submitted program.
- Alternative materials or equipment proposed in the tender.
- Sections of the BQ not priced and/or marked as “excluded”.
- Non-inclusion of sections of works required in the SoR.

If the scope of any tender is incomplete, they cannot be compared with the other returned tenders on an “apple to apple” basis.

All addenda issued during the tender period should have been confirmed as accepted and incorporated in the returned tender.

The brands and models of equipment proposed in the technical submissions should be checked for compliance with the specification requirements.

The BQ should be checked for the following:

- The BQ is arithmetically correct
- Any exclusions/non-pricing of work items or any missing sections in the BQ
- Any unreasonably high or unreasonably low rates.
- Any “front-loading” of costs. Front-loading means pricing items that will be done in the early stages unduly high whilst pricing those to be done in the later stages low. This will give payment advantage to the contractor, increase the financial charges to the employer and carry a higher risk of default at the later stage of construction.

For SoR, the quantities should also be checked for any unreasonableness or major omissions. This shall help to ascertain that the rates have not been deliberately marked high or low by the tenderer as it would distort the valuation of design changes during the construction period.

6.4 Tender Interview

Tender interviews provide a platform for the employer and the potential tenderers to clarify any uncertainties in their tenders.

Tender interviews may serve the following purposes:

- Demonstration of the tenderer’s understanding of the project requirements;
- Elaboration on the construction methodology or proposed programme;
- Meeting with proposed key project members;
- Review on any technical and contractual issues.

Inquiries on technical or cost matters should be handled by issuing technical/tender queries* to the tenderers. As a good practice, reasonable time shall be allowed for the tenderers to fully appraise the queries before answering.

The interviews should be properly scheduled, attended by all relevant parties and recorded. Avoid ad-hoc meetings between individuals. Any price reduction or “best offers” should not be discussed during the

* Queries raised by the tenderers during the tender stage, are also called “tender queries”.

interview meetings to avoid any suspicion on corruption or advantage giving. Records of clarifications and agreements made during the interviews should be kept as they may form part of the contract correspondence to the later awarded contract.

6.5 Dangers of Price Negotiations

Whether the employer will obtain a better price if he conducts price negotiations with the tenderers after the tenders have been returned have always been debatable. Normally tenderers will be willing to give a certain discount at the last stage of the tendering if they believe they can then secure the contract that they may have been working on for months. This gives the impression to the employer that they can secure a lower price if they ask for it. However, research has shown that if the tenderer perceives there will be post-tender price negotiation, they will tend to price higher to allow a margin to offer the discount when asked for it at a last stage*. On the other hand, if it is certain that no change to the tender price will be allowed after the tenders are opened (like in public projects), they will tend to submit their best price in the first place. The “discount” given in post-tender price negotiations might therefore just be an illusion and the final price might have been the same despite all the efforts put into the price negotiation process.

A lot will depend on whether the tenderer perceives whether they will be asked to give a “best price” after tenders are returned or not. It is therefore important that the employer clarifies that they will not conduct post-tender price negotiations (like tenders for public institutions and certain large developers) in order to obtain their “best price” upon tender return. For smaller employers, this can be achieved by stating in the invitation letter that tender prices will not be allowed to be revised after submission.

Excessive price negotiations will also exert undue pressure on tenderers to “beat the competition” and might cause them to take risks and undercut their price below cost. This will create unreasonably low tenders, the dangers of which are further discussed in paragraph 6.7 below.

* Poon K. Y. (2011) The bidding behaviour of contractors in private and public sector construction project.

Sometimes, price negotiation might be necessary because the returned tender price is over the budget allowed. Instead of just asking the tenderer to reduce his tender price, design/materials may be trimmed down a bit (via a post-tender addendum to the tender documents) and all the tenderers be requested to quote for the possible savings, i.e. a win-win situation.

Note that price negotiation is a breeding ground for potential corruption and is therefore very rarely, if ever, practiced in public corporations. Price negotiating for private projects, if considered necessary, should be carried out under specific approval and direct supervision by the employer themselves to avoid potential malpractice.

6.6 Tender Evaluation

Generally, there are two main types of evaluation methods namely: (a) lowest price method and (b) the technical / financial Two Envelope Method (also known as the “economically most advantageous tender method”) as shown in Figure 6.1.

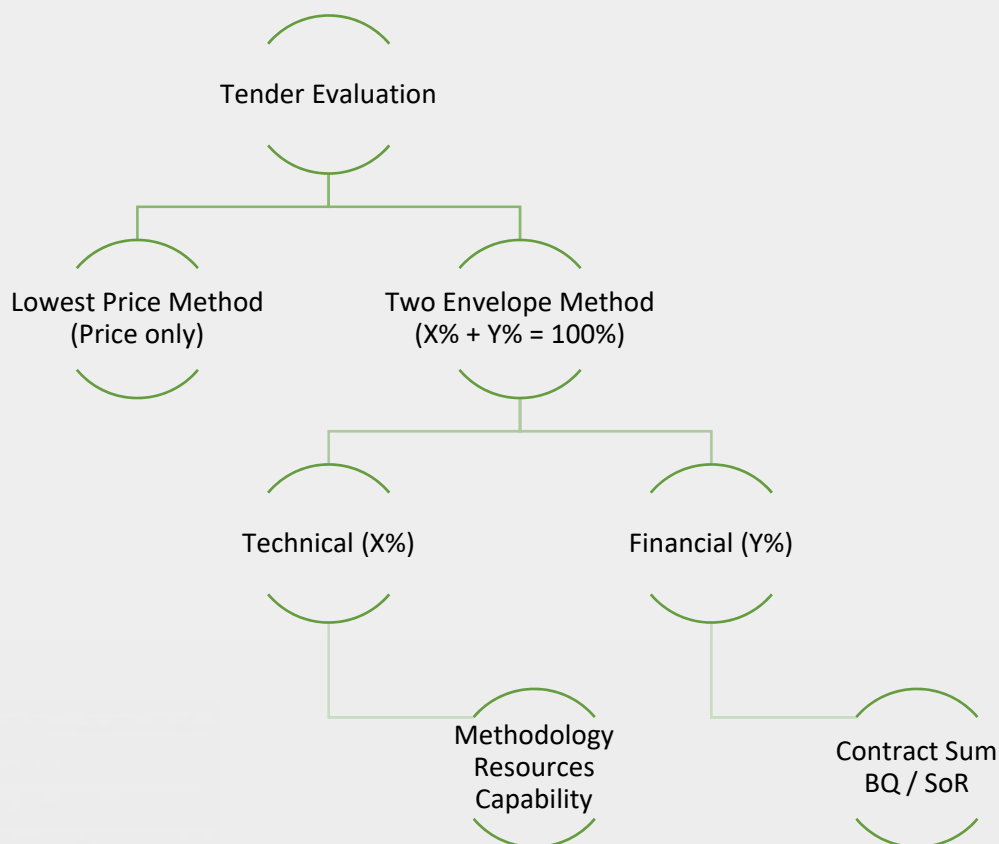


Figure 6.1 Methods of Tender Evaluation

Lowest Price Method

The lowest price method considers the price only and would be suitable for most normal projects, provided that the employer has carried out a good pre-qualification exercise when selecting the tenderers.

Two Envelope Method

The two envelope method is usually adopted for larger and more sophisticated projects where variance in technical capability need to be considered also. Under this method, the tenderers are evaluated against a number of important factors, including the tender price and other non-price criteria such as capability of the contractor, safety record etc. It aims to identify which bid is the best value for money.

Each criterion should have an appropriate weighting to reflect its relative importance to the project.

To ensure the openness of the tender evaluation, the employer should make tenderers known of those criteria and their weighting in the tender documents.

Financial Evaluation: When the pricing of the tenders are complete (i.e. no section in the tender have been left out or qualified as “excluded”), the financial evaluation will normally transform the tender prices into scores with the lowest tender having the highest score of 100. Some methods use the differences in price to calculate the score and others use the prices itself to do so.

Technical Evaluation: The technical evaluation part takes into account a combination of performance indicators, including past experiences and performance, resources, safety record, financial capability, innovation and buildability. The employer can gauge the ability of the contractor in dealing with anticipated problems that may be encountered and mark them accordingly.

The factors help the employer to evaluate how the contractor will carry out and complete the project satisfactorily. Common factors that are normally included in the list to be examined in the selection of tenderers are listed as reference in Figure 6.2.

Factor	Description
Experience	<ul style="list-style-type: none"> • Size & type of projects completed • Relevant experience in contracts of similar type or size in the past 10 years
Past performance	<ul style="list-style-type: none"> • Previous awards or performance scores • Health, safety and environment policies • Incident records and awards
Resources	<ul style="list-style-type: none"> • Experience & qualification of staff • Technical/ Project management expertise • Contractor site management • Quality Control or quality assurance policy • Commitment of concurrent / on-going projects • Availability of resources for new projects • Plant & equipment (e.g. condition of available plant & equipment, suitability of equipment)
Financial capability	<ul style="list-style-type: none"> • Financial track record (e.g. past 3 years audit reports) • Current lawsuits
Project specific technical proposal	<ul style="list-style-type: none"> • Organization chart of proposed project team • Supervision of subcontractors, i.e. for specialist trades (e.g. curtain wall, precast construction) • Proposed site management • Safety plans • Construction method/ technical solution (e.g. proposed construction schedules & procedures) • Creativity & innovation (e.g. advanced technology & innovative energy efficient building materials/ system, for a time- or cost-efficient construction)* • BIM capability for special projects*

Figure 6.2 Common factors normally examined in technical evaluation

* Recommended for projects pursuing BEAM Plus rating or BIM collaboration.

Combined Score: Normally, the technical evaluation is done first and if the tenderer's score passes a pre-determined threshold (normally 50 to 70 marks), the financial part of this tender will be opened and evaluated. Tenders that do not pass the threshold will not be considered further.

Generally, the technical evaluation will account for around 40% of the combined score, and the tender price will account for around 60%. This ratio, however, varies among organizations and projects. The method can be illustrated as follows:

$$60\% \times \frac{\text{the lowest tender price among those conforming tenders}}{\text{the tender price of the tenderer}} + 40\% \times \frac{\text{the tenderer's technical score}}{\text{the highest technical score among those conforming tenders}}$$

	Tenderer 1	Tenderer 2	Tenderer 3	Tenderer 4
Technical Proposal				
1. Contractor's experience (20 marks)	>10 years (18/20)	5 to < 10 years (14/20)	5 to < 10 years (15/20)	< 2 years (8/20)
2. Contractor's past performance (10 marks)	Good (8/10)	Average (6/10)	Good (9/10)	Poor (3/10)
3. Contractor's resources (20 marks)	Excellent (18/20)	Excellent (18/20)	Satisfactory (15/20)	Adequate (10/20)
4. Contractor's financial capability (10 marks)	Very good (9/10)	Good (7/10)	Average (6/10)	Adequate (4/10)
5. Contractor's technical proposal (40 marks)	Very High (35/40)	Medium (25/40)	High (30/40)	Low (18/40)
Total marks	88	70	75	43
Technical Score	100/100	80/100	85/100	Not exceeding threshold of 60 marks
Weighted Technical Score	40.0	32.0	54.0	
Fee Proposal				
Tender price	HK\$3.5 billion	HK\$5 billion	HK\$3 billion	Not considered
Financial Score	86/100	60/100	100/100	
Weighted Financial Score	51.6	36.0	40.0	
Overall Score	91.6	68.0	94.0	
Ranking	2 nd	3 rd	1 st	

Figure 6.3 Example of ranking tenderers according to combined scores with a minimum technical score of 60 marks.

6.7 Unreasonably Low Tenders to be Avoided

During tender assessments, the employer should take particular care to identify unreasonably low tenders submitted that might have been due to calculation errors or ignorance of certain risks that were highlighted in the tender documents by over aggressive tenderers (the “winner’s curse” scenario).

Sometimes contractors can significantly under estimate the risks involved and submit a very low price in their eagerness to win a project. If the contractor knew of the fact that it might lose money and have allowed for such that would be fine.

But if the contractor was unaware of the risks and does not have the capability to sustain the loss, awarding the project to it could be disastrous to the project.

Apart from becoming extremely claim conscious as soon as the contractor finds it has under-estimated the cost in the tender, the most common result would be a delay to the completion of the works as the contractor tries to find finance to continue. In the gravest situation, the contractor might abandon the project or declare bankruptcy. Although the contract would normally allow for liquidated and ascertained damages and require the provision of a performance bond, it is extremely rare that all such indemnifications can cover the real loss due to prolonged delay or incompleteness of the project.

To make things worse, a struggling contractor may try to cut corners on the quality of the works to save on costs. This can result in a completed but inferior asset which will be plagued with problems throughout its operational life.

6.8 Tender Evaluation Report

A tender evaluation report would be prepared to compare the tenders submitted by the different tenderers. It would comprise three main aspects:

- Procedural (e.g. compliance with the tender requirements)
- Financial (e.g. reasonable unit rates and preliminaries)
- Technical (e.g. compliance with works requirements)

Supplementary tender reports will be prepared after the tender interviews and clarifications are made until one tender is selected for acceptance.

Chapter 7- Contract Award

7.1 Award of the Contract

When the successful tenderer is determined, the employer will normally issue a letter of intent to notify the tenderer of his intention to award the contract to him. The letter of intent would list the final offered tender price (if different from the tender sum submitted) and all the agreements made during the tender negotiation stage. The tenderer should counter-sign his acknowledgement and agreement to the terms listed in the letter of Intent.

If a tender is accepted straight without any additional clauses, a simple letter of award from the employer confirming acceptance of the tenderer's offer will suffice.

A formal contract should be prepared for signing by the two contracting parties as soon as possible. All relevant documents and correspondence should be bound together to form the contract documents. These would normally include:

- The letter of award / counter-signed letter of intent;
- All relevant correspondences between the contracting parties during the tender negotiation stage (normally referred to as the “tender correspondences”);
- The full set of tender documents returned by the contractor during the tender stage including the form of tender, technical submissions, conditions of tender, general and special conditions of contract, BQ/SoR (as appropriate), summary of tender, drawings and specification;
- Contractor's submissions provided with the tender which have been agreed to form part of the contract including the method statement, project team organization, materials submission and construction programme*.

* Note that in some standard contract forms, the construction program does not normally form part of the contract. The inclusion or non-inclusion of the submitted construction program has its pros and cons. Non-inclusion would minimize the risk of the consultant's “deemed” acceptance before having the chance to study it in detail. However, it will also allow the contractor to change the program after award of contract.

The authority of the personnel representing the contracting parties to sign on behalf of their respective organizations should be checked. Note that if the contract is to be executed as a deed, a board resolution or a power of attorney authorizing the person(s) to affix their official seal or to execute the contract as a deed should be obtained. The main difference between a contract executed by deed and one under signature is the former carries a limitation period of 12 years while the latter is 6 years only. Due to the extra protection period provided, most construction contracts are executed in deed form.

7.2 Mobilization Time

It is recommended that sufficient notice for mobilization should be given to the awarded contractor prior to commencement of the contract period. For ordinary contracts, this is normally around 7 to 14 days.

7.3 Announcement of Results

Subsequent to the award of contract, it is advisable that the employer announces the tender results: the price and/or name of the successful tenderer. Such transparency allows the tenderers to review their tender submissions so that they can improve their tender for the next project. Sometimes it might be appropriate to set up debriefing meetings for the unsuccessful tenderers to explain the shortcomings in their bids.

7.4 Aborted Tenders

Contractors incur cost to prepare their tenders – cost which they will not be able to recover if they do not win. It is therefore important that the employer gives confidence to the tenderers that the project is real and it is serious to select a contractor to undertake it. A tender that is eventually aborted will make tenderers lose confidence and will damage their interest when the tender is re-issued a second time.

To avoid abortive tenders, it is therefore prudent to check that the design is within the available budget before the tender is issued. This is normally done by means of the pre-tender estimate where the consultant (normally a quantity surveyor) will price the documents in the position of the tenderers. If the pre-tender estimate shows that there is a high chance that the returned tenders will exceed the available budget, amendments to the design, specification or even the contractual arrangement that would bring the estimated cost back on track should be considered and implemented before the tender is issued.

Chapter 8 - Statutory Requirements and Implications

8.1 New and Revised Legislation

There are a lot of ordinances, regulations, guidelines and statutory requirements that are applicable to construction works. These may be changed or new rules/charges may be implemented after the contract is awarded which may impose cost and time implications to the contractor, e.g. stricter noise or environmental controls, safety requirements etc.

Note that the employer can also be impacted, e.g. a change in design codes will lead to variations to the construction contract, the effect of which will be borne by the employer (unless the contract is a design and build contract which will then depend on the specific contract conditions).

The scope of possible changes is so wide that a simple cut-off date (e.g. the contract award date) demarcating that the impact of any new and revised legislation will be reimbursed to the contractor would be extremely risky to the employer and sometimes impossible to assess, e.g. what will be the impact of an increase in the minimum wage? Note that the impact of any new and revised legislation would eventually be reflected in the market costs. It would therefore be possible to reimburse the contractor through a fluctuation compensation method as previously discussed in Chapter 2.

In practice, different standard forms handle the problem differently. The Agreement and Schedule of Conditions of Building Contract for use in the HKSAR stipulates that only the increased portion of fees or charges legally demandable and known after the date for submission of tenders are reimbursable. Government contracts give a list of regulations whereas the impact of revisions to such will be reimbursable.

Apart from legislation that affects the construction works, there are a number of significant legislation that affect the procurement process itself. These include:

- The Prevention of Bribery Ordinance (Chapter 201)
- The Competition Ordinance (Chapter 619)

The effects of these are described in more detail below.

8.2 The Prevention of Bribery Ordinance (Chapter 201)

The Independent Commission Against Corruption (ICAC) have been enforcing legislation on combating corruption under this Ordinance.

Section 9 of the Prevention of Bribery Ordinance prohibits the offering of a bribe to or its acceptance by an employee or agent and the use of false document by an employee or agent to deceive his principal. Section 4 forbids the offering of a bribe to a public officer. These offences can be liable for a maximum penalty of 7 years imprisonment and/or a fine up to HK\$500,000.

Note that a bribe can be a payment, gift, loan, service or favour, and customary practice (e.g. red packets during Chinese New Year) will not be a defence. Seemingly harmless actions like leaking information on tenders received to a particular party for imminent or future favours would be considered as a commitment of bribery. As proving the absence of expecting future favours would be difficult, it will be in the best interest of all parties to maintain confidentiality of tender information during the tender evaluation stage as far as practical to avoid suspicion of malpractice.

Government and many large institutions and development companies have strict procedures to ensure confidentiality during tender evaluation and these should be observed at all times.

8.3 The Competition Ordinance (Chapter 619)

The Competition Ordinance prohibits any conduct that prevents, restricts or distorts competition in Hong Kong and to prohibit mergers that would substantially reduce competition in Hong Kong. The Ordinance is enforced through the Competition Commission and competition cases are handled by the Competition Tribunal.

The Ordinance consists of three main parts:

- The First Conduct Rule that prohibits anti-competitive agreements
- The Second Conduct Rule that prohibits abuse of market power
- The Merger Rule that prohibits anti-competitive mergers and acquisitions

The First Conduct Rule prohibits businesses from making arrangements with other businesses which will prevent, restrict or distort competition. Infringements will include price fixing, market sharing, bid-rigging and joint tendering etc. Established cases include that of a group of fitting-out contractors agreeing to divide clients from designated areas in a housing estate.

The Second Conduct Rule prohibits businesses with a substantial degree of market power from abusing that power by engaging in conduct that has the effect of reducing competition. Infringements will include below-cost pricing to drive others out of the market or trade associations using their influence to set minimum charges.

Closing Remark

All over the world, the construction industry rarely has a good name of being transparent. The low transparency allows malpractices to grow intentionally or unintentionally, the tolerance of which can lead to severe consequences for the industry and to Hong Kong's reputation as a fair and safe place to conduct businesses.

To cultivate an ethical, clean and fair culture in the construction industry, involved parties should strictly observe all legal requirements, strengthen system controls over bribery and follow best practices in their normal course of work.

This document was prepared from the angles of both the employer (with its consultants) and the contractor (with his subcontractors) and aims to reflect the effects of existing practices on each party. A better understanding of each other's difficulties and concerns is essential to the building of an efficient and harmonious construction industry in Hong Kong.



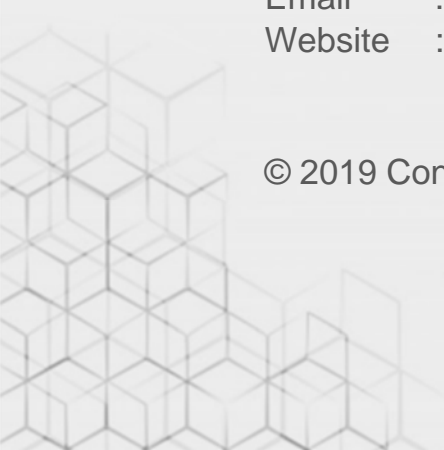
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