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LegCo Panel on Housing

Summary of views on measures to improve building quality in public housing flats

Purpose

This paper summarizes the views presented to the Housing Panel (the Panel) by representative bodies in the construction industry and government authorities at the special meetings on 7, 9 and 14 December 1999 on measures to improve the building quality in public housing flats.

Organizations which presented views to the Panel

2. Following the decision of the Housing Panel on 1 November 1999 to invite views on measures to improve building quality in public housing flats, invitations were sent to representative bodies in the construction industry and government authorities.
3. The professional bodies, trade associations and related authorities which presented views to the Panel are as follows:

Related professional institutes and trade associations

Hong Kong Institute of Architects (HKIA) (7 December 1999)

Hong Kong Institute of Surveyors (HKIS) (7 December 1999)

Construction Industry Training Authority (CITA) (7 December 1999)

Vocational Training Council (VTC) (7 December 1999)

Hong Kong Institution of Engineers (HKIE) (9 December 1999)

Association of Consulting Engineers of Hong Kong (ACEHK) (9 December 1999)

Hong Kong Construction Association Limited (HKCA) (9 December 1999)

Monitoring authorities

Independent Commission Against Corruption (ICAC) (14 December 1999)

Administration

Housing Authority (HA) (9 December 1999)

Housing Bureau (HB) (7, 9 and 14 December 1999)

Housing Department (HD) (7, 9 and 14 December 1999)

Works Bureau (WB) (14 December 1999)

Architectural Services Department (ASD) (14 December 1999)

Buildings Department (BD) (14 December 1999)

Views put to the Panel

4. The views given by the above organisations have mainly focused on the following aspects of building management and building quality assurance:

- (a) the roles of the Housing Authority and the Housing Department in the construction of flats and in overseeing building quality;
- (b) the tendering system for public works contracts;
- (c) the mode of operation;
- (d) sub-contracting of works;
- (e) site management;
- (f) piling works;
- (g) construction time; and
- (h) training and work ethics.

5. For easy reference, the views put to the Panel are summarized in the **Appendix**.

Advice sought

6. Members are invited to further examine the various comments or suggestions put forward to the Panel and give views on the improvements that could be made to the building quality in public housing flats.

**Summary of views on measures to
improve building quality in public housing flats**

	Views of professional institutes and the construction industry		Administration's initial views
(a) The role of Housing Authority and Housing Department in the construction of flats and in overseeing building quality	HKIA	<ul style="list-style-type: none"> - There is a conflict of interest in the role of HA as the developer, designer, project manager and supervisor professional, and also as the building control. - BD should take over the role of building control on all HA projects in line with the practice of private sector projects. This will provide consistency in the standard of design and construction in terms of building safety. 	<p><u>HA/HD</u></p> <ul style="list-style-type: none"> - The Building Committee under HA is the key body concerned with building quality assurance. The Committee is involved in all key stages of the public housing development process and it oversees their implementation by HD. A comprehensive review of the structure and work process of HD would be carried out with a view to introducing a flexible mechanism and a new work culture. - To boost public confidence, HA is willing to subject public housing construction to a third party monitoring, or have it put under the ambit of the Buildings Ordinance.
	HKIE	<ul style="list-style-type: none"> - Consideration should be given to putting HD under the administration of the Works Bureau, leaving housing policies to be handled by Housing Bureau only. - HD should take a more pro-active role in coordinating professional consultants. 	

Abbreviations:

Housing Authority (HA)

Housing Department (HD)

Hong Kong Institute of Architects (HKIA)

Hong Kong Institution of Engineers (HKIE)

Works Bureau (WB)

	ACEHK	- HD should have a role in defining the responsibility of the professionals in the supervision and quality control of public housing projects.	
	HKIE, HKIS and HKCA	- A partnering approach rather than a defensive and confrontational approach should be adopted by HD.	
	HKCA	- A statutory body should be established to support the development of the construction industry through strategic planning, new technology development, staff training and licensing of construction workers.	
(b) Tendering system	HKIA, HKIE, ACEHK and HKIS	<ul style="list-style-type: none"> - The present practice of awarding tenders on the basis of lowest bid and the inequitable sharing of risk by contractors needs to be reviewed as it has created an environment to cut corners to reduce costs. - The present system of selecting consultants heavily favours the lowest bidder. The system needs to be reviewed as it has a direct bearing on the resources a consultant can assign on the project. 	<p><u>HA</u></p> <p>Although the general principle is to award contract to the lowest bidder, it is not uncommon that tenders are awarded to contractors because of their good performance. HA agrees to-</p> <ul style="list-style-type: none"> - implement a preferential award system whereby 20% of the assessment weighting will be for performance, and 80% for the tender amount;

Abbreviations:

Association of Consulting Engineers of Hong Kong (ACEHK)

Hong Kong Institute of Surveyors (HKIS)

Hong Kong Construction Association Limited (HKCA)

	HKIE	<ul style="list-style-type: none"> - Separate tenders for engineering works. 	<ul style="list-style-type: none"> - review the scoring ratio and place more emphasis on qualification, experience and past performance of contractors and consultants; - reward well-performed contractors and give better chances in tendering; - punish contractors who deliver sub-standard works and who breached contract requirements; and - consider requiring tenderers to submit proposals on project management and quality assurance.
(c) Mode of operation	HKIE	<ul style="list-style-type: none"> - It is important to have a quality design brief. A mutually co-operative approach should be adopted to accommodate variations for better quality finish of the housing project. 	<p><u>HA/HD</u></p> <ul style="list-style-type: none"> - The project design is prepared in accordance with the requirements of the client's brief, making reference to HD's design guidelines, construction standards and the statutory requirements for design control. - Standard blocks would usually be used but non-standard designs would be considered when situation warrants. - An internal audit team would be set up to inspect all site mock-up units to ensure consistency.
	ACEHK	<ul style="list-style-type: none"> - Contract documents should be clear, precise, equitable, enforceable and meeting user/owner expectations. 	
	HKCA	<ul style="list-style-type: none"> - HD to demonstrate clear quality standard requirements by rejecting works which are below such standards. - HD to adopt a clearly defined acceptance standard which is implemented by one unified inspection body. 	

		<ul style="list-style-type: none">- HD to build “Central Sample Units” for reference by contractors.- HD to allow contractors to open up site mock-up units to sub-contractors and workers.- HD, HKCA and the design profession to review from time to time the detailed design and the quality specifications of material and workmanship.	
	HKIS	<ul style="list-style-type: none">- By increasing the usage of standard precast components which could be manufactured off-site, reliance on manual workmanship could be reduced.	

(d) Sub-contracting	HKIE and HKIS	<ul style="list-style-type: none"> - The contracting construction company should not be allowed to totally assign its construction contract to another party. - Sub-letting of specialised services is acceptable. 	<p><u>HA/HD</u></p> <ul style="list-style-type: none"> - Sub-letting of the whole of the works is not allowed. For specialized works such as electrical installation, lift installation etc, the contractor is required under the Conditions of Contract to employ sub-contractors as nominated by HA (i.e. nominated sub-contractors). - Under the current contract system, the supervision of sub-contractors lies with the main contractor under its general obligation clauses of the contract. HD monitors the work of the whole construction work irrespective of whether they are undertaken by the main contractor or its sub-contractor. - HA supports the setting up of an “Organized Specialist Sub-contractor Scheme” and the establishment of sub-contracting criteria for the industry.
	ACEHK	<ul style="list-style-type: none"> - Multi-layered sub-contracting would lead to lowering of quality of final product. - Contractors to place more control on sub-contractors. 	
	HKCA	<ul style="list-style-type: none"> - The construction industry should ban total assignment of contract. - The industry to study the “Organised Specialist Sub-contractors Scheme”. The Scheme will remove the “broker” sub-contractors from the industry and reduce the number of sub-contracting tiers. 	

	ICAC	<ul style="list-style-type: none"> - The brokerage type of sub-contracting is undesirable because additional layers would reduce profit margins and increase the incentive and potential for malpractice. - There is a need to impose appropriate controls on non-productive sub-contracting. 	
(e) Site management	HKIA	<ul style="list-style-type: none"> - More qualified architects and engineers, rather than Clerks of Works are required to supervise the work of contractors at all critical stages of the construction process. 	<p><u>HA/HD</u></p> <p>The contract responsibilities of site supervision are clearly defined in contract documents. HD inspects and tests work items on a sampling basis. 100% inspection is required for important work items affecting quality and structural safety. There is an independent audit team centrally deployed to carry out site and office audits to ensure works are in compliance with the procedures and standards. Handover inspections are carried out by the contract manager, the housing manager and handover inspection unit of client branch of HD. In response to the industry's concern, HA agrees to-</p> <ul style="list-style-type: none"> - consider engaging resident engineers for large scale and complex housing projects; - consider raising the requirements in respect of experience and qualifications of the contractors' site management staff; and - ensure sufficient deployment of staff from HD to conduct site inspection.
	HKIE	<ul style="list-style-type: none"> - Independent third party inspection or auditing should be encouraged. - There should be four levels of supervision at project management level, at professional level, at technician level and at trade level. 	

Abbreviation:

Independent Commission Against Corruption (ICAC)

	ACEHK	<ul style="list-style-type: none">- The site supervisory team should be led by qualified professional staff and should maintain control on the satisfactory performance of the contractor's staff and domestic sub-contractors.	
	HKIS	<ul style="list-style-type: none">- HD should adopt a proactive and directive supervision approach.- Site supervisory staff to be paid/reimbursed by HD and supervision costs should not be included in the tender.	
	HKCA	<ul style="list-style-type: none">- HKCA to recommend a desirable standard of experience and qualification for contractors' supervisory staff.- HKCA to study the requirement for a registration system for contractors' supervisory staff.	
	ICAC	<ul style="list-style-type: none">- HD should ensure that a sufficient number of site staff to ensure quality construction and require project professional officers to conduct frequent and regular site visits to monitor quality of works.- HD should ensure that there are effective independent audits on a regular basis on all housing projects.	

(f) Piling works	HKIA	<ul style="list-style-type: none"> - The supervision and acceptance criteria of bored piles in both HA and private sector projects warrant major review. - Current practice of HA calls for pile and pile caps to be contractor's design. To cut costs, tenderers would submit piling system that may carry a higher risk of settlement. Using consultants' design as baseline for tender would eliminate this problem. 	<p><u>HA/HD</u> undertakes to-</p> <ul style="list-style-type: none"> - conduct a comprehensive review of the foundation works at the 106 uncompleted sites. Where necessary, strengthening works would be carried out to ensure that a high standard of structural safety is maintained at each of the sites; - put in place measures to improve the monitoring of the 25 to 30 piling projects to be tendered out each year in future and to effect stricter control over the quality of piling; - positively consider the views of the industry about the use of prestressed precast concrete piles with a view to further tightening their application to ensure structural safety, or even banning their use in new projects; and - review the tendering and operational arrangements of the piling works with a view to reducing the probability of errors.
	HKIE	<ul style="list-style-type: none"> - A thorough examination of possible hidden defects in piling should be carried out at least in the public housing developments in the Tin Shui Wai area. 	

	ICAC	<ul style="list-style-type: none"> - As the tests for construction and piling materials are carried out by sub-contractor or a laboratory appointed by the main contractor, there is an obvious conflict of interest in this arrangement. - Quality control test on construction materials should be carried out by independent testing agents employed directly by HD with the test results sent directly to the project structural engineer. - Quality control tests carried out on site should be closely supervised. - There should be adequate security procedures governing sampling and testing of construction material to prevent possible tempering. 	
(g) Construction time	ACEHK, HKIS and HKCA	<ul style="list-style-type: none"> - Reasonable contract time to be allowed for contractors to produce quality works in a safe and environmentally acceptable manner. 	<ul style="list-style-type: none"> - <u>HA/HD</u> undertake to review the construction time to ensure that contractors are given reasonable time to build good quality housing. HA assures that it will not compromise building quality to meet production targets, which could be achievable as long as there is a sufficient, steady and even land supply.

(h) Training and work ethics	HKIA	- Improved skills for the workforce can be achieved by better training and certification of workmen.	<p><u>HA/HD</u></p> <ul style="list-style-type: none"> - The Administration supports the implementation of the workers registration system and the provision of continuous training. It will encourage contractors and sub-contractors to employ more contract workers.
	HKIE	- Universities, technical institutions and CITA are providing adequate professionals and workers but inadequate technical staff to fill the gap for middle management.	
	VTC	- Training for technical staff is provided by VTC but there is a need to formulate measures to retain technical staff within the construction industry.	
	HKCA	- The industry to set up a Construction Industry Workers Registration System.	
	ICAC	<ul style="list-style-type: none"> - Site supervisory staff should be regularly reminded of the need for appropriate behaviour in their daily contact with contractors. - To avoid conflict of interest, site supervisors should avoid accepting favours from contractor and sub-contractors who may offer unreasonably low prices for domestic decoration works. - Consultants and contractors should be required to promulgate a code of conduct for their staff. 	