CONSTRUCTION
INDUSTRY COUNCIL
建造業議會

SUMMARY REPORT
ON REVIEW OF LOCAL CONSTRUCTION STANDARDS

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Purpose

This report summarises the main findings of a review conducted by the Committee on Environment and Technology of the Construction Industry Council (CIC) on the construction standards commonly adopted in Hong Kong.

Terminology

In this document, unless the context otherwise requires:

1. "Construction Standards" collectively mean Design Codes, Material Standards or Process Standards and Specifications.

2. "Design Code" means a document that describes the standards of good practice for the design and construction of works. Examples are BS7121: Code of Practice for Safe Use of Cranes and BS8110: Structural Use of Concrete. They are also occasionally referred to as "design standards".

3. "Material Standard" or "Process Standard" means a document that describes the key characteristics of basic materials, products or processes. It facilitates the mass production and flexibility of supply sources and conveniently forms the basis for quality assurance and product certification. Examples of standards are ASTM C33: Concrete Aggregates and BS812: Testing Aggregates.

4. "Specification" means an organisation-specific or project-specific document that describes characteristics of basic materials and products to be used as well as the works components constructed from them and/or the process of construction. Descriptions of characteristics are frequently made with reference to Material Standards and Process Standards. An organisation-specific specification is generally referred to as the general specification of that organisation, an example of which is the General Specification for Civil Engineering Works of the Government of HKSAR.

1. Background

The Report of the Construction Industry Review Committee (the Tang Report) recommended a concerted effort to develop and apply construction standards in the industry. The Tang Report also put forward for consideration of establishing a central construction standardisation body in Hong Kong.

Prior to the establishment of the CIC, the Provisional Construction Industry Coordination Board had discussed the need for a central construction standardisation body, which was subsequently followed up by the CIC. The CIC concluded that there was no need to establish a central construction standardisation body.

However, the following concerns were raised over the Construction Standards in Hong Kong:

1. The unification of Construction Standards deserves consideration;

2. A study should be made on the impact of the withdrawal of British Standards for structural design, which will take place beginning in March 2010, and consideration given to the readiness of the industry to adopt other standards as replacements; and

3. Different project clients currently develop their own Specifications with a clear lack of effective coordination.

2. Introduction

To address the concerns laid out above, the CIC decided to set up two task forces comprising experts and industry practitioners. They are as follows:

1. Task Force on Construction Standards for Infrastructures, which reviewed Construction Standards on infrastructures; and

2. Task Force on Construction Standards for Buildings, which reviewed Construction Standards on buildings.

As there are a wide variety of standards relating to building construction, the following three task groups were subsequently set up under the Task Force on Construction Standards for Buildings. They are as follows:

1. Task Group on Architectural Works, which focused on architectural works;

2. Task Group on Building Services Works, which focused on building services works; and

3. Task Group on Structural Works, which focused on structural works.

Different types of developments initiated by different project organisations were considered in the review:

1. Infrastructure developments: usually initiated by the Government and public bodies like MTR Corporation Limited (MTRC) and the Airport Authority Hong Kong;

2. Buildings belonging to the Government: usually managed by the Architectural Services Department;

3. Public housing: housing developments under the control and management of the Hong Kong Housing Authority; and

4. Private buildings: building developments under the control of the Buildings Ordinance.

The Task Forces and Task Groups separately reviewed the Construction Standards applicable to their areas of concern. Owing to the large volume of Construction Standards adopted in construction works, the Task Forces and Task Groups focused their reviews on common construction processes and commonly used construction materials.

The consolidated findings of the individual Task Forces and Task Groups are summarised in the sections that follow.

3. Unification of Construction Standards

Construction Standards for the construction works associated with infrastructure developments, buildings belonging to the Government, public housing and private buildings (see Section 2: Introduction) are generally overseen by the Works Departments of the Government, the MTRC and the Hong Kong Housing Authority, as summarised below:

Type of Development	Overseer of construction standards
Infrastructure development projects	Works Departments of the Government; MTRC (also the Airport Authority Hong Kong for some airport-specific works)
Government building projects	Architectural Services Department
Public housing projects	Hong Kong Housing Authority
Private building projects	Buildings Department

In practice, rather than utilising a unified set of Specifications, the four types of developments mentioned in the table above (that is, government development projects, public housing projects, private building works and railway projects) maintain separate Specifications. These four types of Specifications are overseen by their respective project organisations though some harmonisation is observed among different sets of Specifications.

The unification of Specifications across the board is considered unnecessary because individual project organisations need their own freedom to specify the needs of their projects. Unification under that situation would result in a widespread adoption of supplements to the unified Specifications in the form of particular specifications which would contravene the purpose of unification.

While unification is considered unnecessary, harmonisation of Specifications for materials or processes can be considered should the opportunity arise, e.g. if the issue is raised by an organisation under special circumstances, or simply by chance during the normal course of works.

4. Withdrawal of British Standards

At the time of this review, Hong Kong has made extensive use of British Standards as design standards and Design Codes based on British Standards.

The British Standards Institute (BSI) published a list of 57 British Standards relating to structural design which were scheduled to be withdrawn from use beginning in March 2010. The majority of these have been superseded or made obsolete by Eurocodes.

The respective project organisations that oversee the four types of developments that form the focus of Section 3 have placed the effects of withdrawing the British Standards under intense scrutiny.

It is therefore concluded that such a move would not pose major problems to the industry as different organisations overseeing the Construction Standards relevant to their development projects have already started looking into the issue and even migrating from the use of British standards to other internationally recognised standards like Eurocodes. Others have continued to update their own Design Codes or codes of practice as appropriate.

5. Coordination of Construction Standards

Although the unification of Specifications is concluded to be unnecessary (see Section 3: Unification of Construction Standards), it is still desirable for the different project organisations to improve coordination of the Construction Standards that they maintain.

The CIC has deliberated on possible ways to facilitate the coordination of the Construction Standards used in Hong Kong. The following have been proposed:

1. Option A: the CIC will serve as a platform to facilitate the exchange of information and collaboration of efforts to address the needs of the industry relating to the Construction Standards;

2. Option B: the CIC will play a proactive role in coordinating the use and update of Construction Standards adopted by different project clients; or

3. Option C: the CIC will keep track of changes in the Construction Standards adopted by local organisations handling the respective types of Construction Standards, and conduct studies on the development of Construction Standards in overseas countries.

a. Option A: CIC as a platform

As mentioned in Section 3, Construction Standards for different types of development projects are overseen by different parties.

Should any stakeholders consider there to be a need for harmonising certain Specifications, the CIC will provide a platform on which to collaborate the efforts of the relevant organisations to address the issue by establishing an ad hoc task force to review the matter in question.

Exercises similar in form to the reviews conducted by the Task Forces and Task Groups discussed in Section 2 may be conducted at set intervals. Given that the time span from the formation of the Task Forces to the completion of the exercises was about one year, it is recommended that the comprehensive review exercise be repeated every three to five years.

In between said periods, relevant Works Departments of the Government, either in the capacity of project clients or regulators, are encouraged to maintain close liaison with one another regarding the use of standards while the CIC helps disseminate the information to other stakeholders as necessary.

b. Option B: CIC as a coordination body

Given the unnecessary nature of establishing a construction standardisation body and unifying Specifications, the scope of duties of the CIC as a coordination body under Option B would be less than that originally anticipated.

Under Option B, the CIC will proactively communicate with the local construction industry in respect of the updates from different project clients with a view to identifying the opportunities for the harmonisation of standards and, if applicable, coordinate the harmonisation process.

Since a large variety of standards have been adopted in the industry, staff with expertise in the respective areas, i.e. civil and structural engineering, architecture and building services, would need to be recruited, which would have additional cost implications for the CIC.

To enable the CIC to effectively achieve its coordinating functions, project proponents must promptly update the CIC as soon as new or existing standards are adopted in their projects in order to trigger the necessary response from the CIC. A sophisticated communication mechanism must therefore be instated.

c. Option C: CIC as a monitoring agent

Option C takes the middle ground between Options A and B.

Under Option C, the CIC will regularly monitor changes made to Construction Standards, e.g. on an annual basis. It will achieve this by making enquiries at regular intervals to local organisations for updates on their respective Specifications, needs or opportunities to harmonise said Specifications for specified materials or processes. It will also conduct study on the development of Construction Standards in overseas countries. Should there be major changes, the CIC can initiate discussions as appropriate.

Relevant organisations may also approach the CIC to raise discussion on matters relating to Construction Standards.

d. Comparison of Options A, B and C

Option A achieves only the basic purpose of tracking changes to existing construction standards, while Option B presents concerns about resources. Option C is therefore considered to be a more practical way for the CIC to aid the industry in monitoring the development of Construction Standards.

6. Conclusion and Recommendations

Taking into account the findings of the Task Forces and Groups and the analysis of the possible roles that may be undertaken by the CIC in respect of Construction Standards currently in use, the CIC concludes and recommends that:

1. The unification of Specifications for the local construction industry is unnecessary;

2. The migration from British Standards to Eurocodes in 2010 will not impact the construction industry in any significant way as they involve for the most part the design codes for buildings and civil engineering structures as well as the associated reference standards which have been well taken care of by the relevant project organisations; and

3. To improve the coordination of Construction Standards, the CIC can play a role in keeping track of changes in local construction standards by making regular enquiries to the project organisations overseeing their respective standards. It will seek updates on their respective Specifications, needs or opportunities to harmonise said Specifications for specified materials or processes. It will also conduct study on the development of Construction Standards in countries overseas and initiate discussions as appropriate, while the project organisations may approach the CIC to raise discussion on matters relating to Construction Standards.