

## **Paper 2: Uniform Building By-laws 1984 (Amendments) 2012**

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### **1.0 Introduction**

To the architects, the Uniform Building By-Laws 1984 (UBBL) needs no introduction. It is the principle prescriptive by-law which directs and influences one's building design in order to protect the life, health and safety of the individuals who will later inhabit the building or structure once it is completed. Generally known as UBBL, it governs the design and construction of matters such as, but not wholly restricted to, structural requirements, living space, ventilation, lighting, building access and fire safety.

There are many ways of structuring and implementing the building codes, every country has their own building codes which varies from others; however, the purpose remains the same. In Hong Kong for example, building codes are separated into various codes of practices, design manuals and guidelines<sup>1</sup>. In contrast, our building codes have been consolidated into one by-law but the matters of process, procedures and design requirements are separated into different parts. Apart from the various ways in implementing building codes, different countries may also introduce specific set of codes related to a major concern present in their region. Again, using the example of Hong Kong, a code of practice on wind effects was introduced in 2004<sup>2</sup> due to two major factors arising from its geographical location – the first being its exposure to typhoons and the second being the sheltered harbor where Hong Kong lies.

The effectiveness of building codes in serving its purpose also rely on timely revision or amendment to the codes. However, too frequent revision could also turn problematic. The frequency of revising building codes was a topic of debate in the United States just recently as Pennsylvania's Uniform Construction Code Review and Advisory Council (RAC) felt that the three year review cycle done by Washington-based International Code Council (ICC) which Pennsylvania adopts, is "changing too quickly"<sup>3</sup>. The same was echoed by the state of Michigan which extended its requirement to review building codes from three to six years. The American Institute of Architects (AIA) and the National Association of Home Builders (NAHB) have also in the past, proposed ICC to reconsider its code review cycles to "make it easier and less expensive for builders and contractors, architects, engineers, manufacturers, and building officials to manage changes"<sup>3</sup>. ICC argument for the short cycle was the advancement of technology and new building practices.

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<sup>1</sup> Based on publications on the Hong Kong Buildings Department (HKBD) website [www.bd.gov.hk](http://www.bd.gov.hk)

<sup>2</sup> Information available on HKBD website as "Explanatory Materials to the Code of Practice on Wind Effects in Hong Kong 2004. Studies indicated significant resonant dynamic response in buildings where the height exceeds five times the least horizontal dimension and also in buildings where the height is more than 100 meters.

<sup>3</sup> <http://www.builderonline.com/building-codes/are-building-codes-revised-too-often.aspx>

In contrast, Malaysia had its building codes since 1984 and remain unchanged until the recent amended in 2012, after almost three decades. The changes mainly clarify the existing by-laws with some additional by-laws on the energy efficiency design, demolition works, etc. This amendment in 2012 is not a major revamp of the by-laws structure where the architects and engineers are expecting a major improvement to the UBBL with inclusion of performance based code as a major component of the by-laws.

## **2.0 Performance Based Regulations**

Most of the countries in the world including Malaysia adopted prescriptive method in structuring their building codes, however, the recent development in some developed countries have moved towards performance based building regulations and by-laws. In those countries, performance based codes has been included as a special section or addition to the existing prescriptive format building regulations. The introduction of performance based building codes, however does not always being well accepted by the public. There are instances where the introduction of performance based building codes being objected by the public worrying the loose descriptions of performance criteria being manipulated by irresponsible contractors and developers.

The current practice in Malaysia allow fire safety requirement design based on performance criteria with a strict design dictations by qualified fire engineers. Performance based design criteria has to go through the fire simulation analysis and shall only be accepted if the design satisfy the Fire and Rescue Department of Malaysia (BOMBA). It was less fortunate for the practicing architects and engineer for not having the performance based design criteria as a new section in the UBBL.

## **3.0 UBBL Amendment 2012**

The creation of UBBL 1984, other than for the obvious purpose of life protection and safety, was as a move to consolidate the different by-laws previously implemented by various local authorities in Malaysia and also incorporates the Malaysian Standards as the base standard. Prescriptive in nature, the UBBL 1984 saves cost and time especially on matters related to inspection and approval. The UBBL Amendment 2012 includes introduction of new provisions and omission of the existing provision as follows:

### **3.1 Notable Additions**

Notable additions involving a totally new by-laws can be seen in Part I in the creation of Part IA regarding demolition of buildings. Highlights to Part IA include the adoption of MS 2318:2010 (P): Demolition of Buildings – Code of Practice (First Revision) throughout demolition works and the detailing out of the Duties of Submitting Person.

Part III sees the introduction of new by-law 38A and 38B. By-law 38A is related to energy efficiency in buildings which is introduced on the request of KeTTHA while by-law 38B provides protection of building structures against lightning strikes.

Proper site investigation is now required under existing by-law 73 in Part V, of which the test should be conducted by a Professional Engineer with relevant geotechnical experience. A new by-law 76A related to building on hill slopes is now included as per current engineering practice, which stresses on compliance to local authority requirements.

In Part VII, there is an introduction of new by-law 197A on the 'Means of access and fire fighting in building over 18.0 metres high' of which the paragraphs comprise of those shifted from other existing by-laws. The new by-law 197B on 'Fire-fighting access lobbies' is also introduced on the same basis. Also in Part VII, new by-law 211A regarding 'Materials for Construction' is introduced to stress on the conformance to performance specification. Two new additions in Part VIII are by-law 252A which regulates the design of atrium in buildings and by-law 253A regarding emergency lights (moved from notes in the Tenth Schedule).

### **3.2 Notable Deletion**

Notable deletion in Part III is the deletion of by-law 34A whereby the details now should be referred to the relevant MS 1184:2002, Code of Practice on Access for Disabled Person to Public Buildings.

In Part VI, deletion of party walls (by-law 86) is due to adequate fire requirement in by-law 141 which is the key reference used by BOMBA. The new amendment also struck off flues and chimneys in kitchens as per by-law 99, and totally deleted by-law 100 due to the consequential amendment of by-law 99. By-law 188 regarding refuse chutes has been totally deleted, and so have several by-laws linked to by-law 188 such as by-laws 120-122.

### **3.3 Other changes**

There are other changes in terms of re-wording apart from by-law 137 mentioned earlier. By-law 163 used to be 'Half hour and one hour doors' are now simply 'Fire doors', while the methods have been struck off and simplified by adopting MS 1073. By-law 225 in Part VIII has also been re-worded to include 'warning' other than detecting and extinguishing fire. In line with current practice, by-law 238 is re-worded to 'Fire Command Center'.

#### **4.0 Uniformity of by-laws**

Despite its name, the UBBL has not been uniformly implemented throughout the country. Only several states adopted the UBBL, whereas other states has its own states building by laws. Even the recent amendment has not been gazetted in every states, thus, it creates confusion to the submitting persons. It is about time for the federal and state governments to sit down and look into resolving the three level governing issues. Such new regulations and laws, once approved at federal level should be announced for gazette and implementation on a date synchronised with all the states in Peninsular Malaysia; and state authorities should not be allowed to change building by-laws unnecessarily.

#### **5.0 Conclusion**

With exception of the new Part IA, the latest amendment to UBBL 1984 does not see a major revamp in terms of its eight parts structure as the changes are mostly within the parts itself. Major additions could be seen in Part I, Part III, Part V and Pat VII. Overall, additions are made either to be in line with new practice such as those related to compartmentation by heights (a re-worded by-law 137), or introduction of new terms such as those in by-law 133, or in provision of a more detailed requirement such as the amended by-law 140 related to fire appliance access. Additions are also made due to a shift from other Parts or from the Tenth Schedule for example by-law 169 (exit routes) has been expanded by the shifting of notes (i) and (ii) from the Tenth Schedule.

The bulk of deletions could be seen in Part VI and some in Part VII. Most of the deletions are either related to the express inclusion of the Malaysian Standards or due to the fact that the same has been described in other by-laws or due to shifting of by-laws to other parts in UBBL for instance, by-law 154 previously in Part VII has been shifted to Part VIII as a new addition. Other deletions could be attributed to obsolete or outdated practice. Overall, a high percentage of the changes occur within Part VII and VIII which translates to a strong fire safety influence. In light of the big time gap prior to 2012 amendment, some members of the forum had expected something more than just shifting of paragraphs and adoption to standards.

An advantage of this long revision cycle is the ease of adaptability by architects and contractors in carrying out the amendments. Frequent changing of laws is a costly and time consuming process. However, a big question mark among the practitioner is why the amendment to UBBL was done without proper consultation and public engagement. For example, problem arises when the local authorities in Selangor started implementing the new by-laws where a single staircase shophouses is no longer be permitted. The decision affects many projects queuing for authority approval in which it involves planning and design changes. Future proposed amendment to be made available for public views and comments prior to gazette and implementation to minimise surprises.