

**For discussion  
on 23 June 2009**

**LEGISLATIVE COUNCIL  
PANEL ON DEVELOPMENT**

**Building (Construction) (Amendment) Regulation 2009**

**PURPOSE**

This paper seeks Members' comments on the proposed amendments to regulation 17 of the Building (Construction) Regulations ("B(C)R") to update the design requirements for imposed loads of buildings.

**BACKGROUND**

2. The structure of every building shall be capable of safely sustaining and transmitting the combined dead loads (e.g. the weight of walls, floors, roofs, etc.), imposed loads (e.g. the weight of occupants, furniture, equipment, etc.) and wind loads to the ground. Under regulation 17 of the B(C)R, the total imposed load on any building shall be the greatest applied load likely to arise from the intended use or purpose of the building.

3. The minimum imposed loads on buildings prescribed in the existing regulation 17 of the B(C)R were introduced in 1990. In view of the advancement in building technologies, development of international building codes and standards, changes in habitation pattern, emergence of new floor uses and improvement of practices in property management, the Buildings Department (BD) commissioned a consultancy study on the loading requirements of buildings under the existing B(C)R to ensure that Hong Kong's statutory requirements are in line with those of other developed countries and to facilitate advancement of building structural designs in accordance with modern-day standards and needs. The consultancy study, overseen by a Steering Committee with members from relevant Government departments, academic institutions and professional

bodies, has come up with recommendations to revise the requirements of imposed loads on buildings under the existing regulation 17 of the B(C)R.

## **PROPOSED AMENDMENTS**

4. The proposed amendments to regulation 17 of the B(C)R aim to update the requirements on imposed load of buildings with a view to improving the economy of building design and construction in line with local conditions and international standards. The amendments will facilitate the process of structural design and enhance efficiency in building control and enforcement.

5. The proposed key amendments to regulation 17 of the B(C)R include the following:

(i) to stipulate that where the floor of a building is used to support any equipment, machinery or display item, the load of any of those items has to be considered in determining the imposed load on the floor. Under the existing regulation, only certain floor uses require the consideration of the load of equipment, machinery or display items in determining their imposed loads. The proposed amendment will require all floor uses to take into account the anticipated load of equipment, machinery or display items in determining their imposed loads. This amendment will enhance building safety;

(ii) to re-categorize the floor uses and their required minimum imposed loads. The proposed amendment will broadly group the floor uses into eight classes as described below. Such re-categorisation is made with reference to international practice and will facilitate practitioners to ascertain the minimum imposed load required for a particular floor use:

- (a) Class 1 floors for domestic use and residential activities;
- (b) Class 2 floors for offices and other non-industrial work places;
- (c) Class 3 floors where people may congregate;
- (d) Class 4 floors for shopping purposes;
- (e) Class 5 floors for storage, equipment, plant and industrial use;

- (f) Class 6 areas for vehicular traffic;
  - (g) Class 7 roofs; and
  - (h) Class 8 affiliated building elements;
- (iii) to reduce the requirement of minimum imposed loads for certain floor uses (e.g. domestic use and restaurants), taking into account the latest building design, habitation pattern, use and practice of property management. Such a reduction will bring about more economical structural designs which is in line with the local conditions and international standards and at the same time without compromising building safety;
- (iv) to specify the minimum imposed loads for some new floor uses (e.g. residential care homes, utility platforms, etc.). The proposed amendment aims to modernize the regulation to cater for present-day activities in Hong Kong;
- (v) to disallow load reduction for loads from partitions the positions of which are not indicated on plans submitted to the Building Authority for approval. This is because such loads are considered permanent imposed loads. The proposed amendment will enhance the safety of building design;
- (vi) to revise the reductions allowed for total distributed imposed loads to cater for the general increase in the number of storeys of buildings nowadays. The proposed amendment will enhance structural safety of buildings by allowing less load reduction in structural design. Such practice is in line with international standards;
- (vii) to specify the horizontal imposed load of protective barriers for areas where people may congregate but overcrowding is not expected (e.g. a theatre with fixed seating). The proposed amendment will bring about more economical design of protective barriers without compromising building safety;
- (viii) to combine the two mathematical formulae for calculating impact forces on vehicle barriers into one single formula applicable in all circumstances. The proposed amendment will facilitate practitioners in structural design of vehicular barriers; and

(ix) to update the existing imposed load requirements in general in order to tie in with the latest design practice and international standards.

6. The BD has consulted the relevant professional bodies of the construction industry, including the Hong Kong Institution of Engineers, the Hong Kong Institute of Architects, the Hong Kong Institute of Surveyors and local trade associations on the proposed amendments. The industry stakeholders generally welcome the proposed amendments. The proposal has also been discussed at the Building Sub-Committee of the Land and Building Advisory Committee as well as the Authorized Persons and Registered Structural Engineers Committee. Members of these two committees are generally supportive of the proposal to amend the loading requirements in regulation 17 of the B(C)R and welcome early implementation of the proposed amendments.

#### **ADVICE SOUGHT**

7. Members' advice is sought on our proposed amendments to regulation 17 of the B(C)R. Subject to Members' comments, the Administration will table the Building (Construction) (Amendment) Regulation 2009 in the Legislative Council early in the 2009/10 legislative session.

**Development Bureau**  
**June 2009**