Building and Construction Authority

We shape a **safe**, **high quality**, **sustainable** and **friendly** built environment.

Our Ref.: BCA BC 15.0.3 Building Plan and Management Division

31 Dec 2010

See Distribution

Dear Sir/Madam

ADOPTION OF NEW SINGAPORE STANDARD SS 555:2010 – CODE OF PRACTICE FOR PROTECTION AGAINST LIGHTNING

Objective

This circular is to inform the industry on the adoption of new Singapore Standard SS 555:2010 – Code of practice for protection against lightning

Adoption of SS 555:2010 – Code of Practice for Protection against Lightning

2 Clause L on Lightning Protection in the Fifth Schedule of the Building Control Regulations (on Objectives and Performance Requirements for the Design and Construction of Buildings) requires **buildings and its occupants to be protected from the direct effects of lightning strike and the risk of lightning current being discharged through the building**. Currently, designs which are in accordance with Singapore Standard CP 33 – Code of Practice for Lightning Protection are deemed to have complied with the above Objectives and Performance Requirements.

3 With the launch of the new SS 555:2010 – Code of Practice for Protection against Lightning in November 2010, BCA has decided to adopt it to replace CP 33 as the deemed approved solution for compliance with the Regulations. **With effect from 1 July 2011, developments whose building plans are submitted on or after this date must comply with the relevant requirements in SS 555:2010.**

4 The new SS 555:2010 is aligned to the IEC 62305 International Standard on Protection against Lightning, and it comprises of the following four parts:

a) Part 1: General principles – This part provides guidelines for lightning protection of structures and their installations, their contents including persons within the structures and services connected to the structures.

b) Part 2: Risk Management – This part introduces evaluation procedures for assessing lightning risk for a structure or its services, and selection of lightning protection measures upon completion of risk assessment.

c) Part 3: Physical damage to structures and life hazard – This part provides requirements for the protection of a structure against physical damage by means of a lightning protection system. It also provides requirements for protection of living beings in the vicinity of the lightning protection system against injuries caused by touch or step voltages.

d) Part 4: Electrical and electronic systems within structures – This part provides guidelines on the design, installation, inspection, maintenance and testing of Lightning Electromagnetic Pulse (LEMP) protection systems for electrical and electronic services within a structure.

5 Specifically, BCA would like to draw industry's attention to the four classes (I, II, III and IV) of lightning protection system which are mentioned in Part 3 of the SS555:2010. For the purpose of complying with the Building Control Regulations, **a minimum level of Class III lightning protection system (equivalent to a rolling sphere radius of 45m under the rolling sphere method of determining air termination positions) must be provided.** For buildings with higher risks (e.g. storage of explosive or flammable contents), a higher level lightning protection must be provided accordingly.

Lightning Protection at Rooftop Garden

6 BCA has observed an increasing trend of developments with rooftop gardens for the enjoyment of the residents/public. Industry is reminded that such rooftop gardens must be provided with lightning protection system as well.

Clarification

7 We would appreciate it if you could convey the contents of this circular to the members of your organisation. For clarification, you may email to bca_enquiry@bca.gov.sg or call our hotline 6325 7159.

Yours faithfully



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