Summary of Decisions of the Structural Engineering Committee
SEC Meeting 13/2014 held on 10.12.2014

(a) Case 42/2014

Issue: Methodology Report for Wind Tunnel Test

Recommendation: To accept the following methodology and parameters for wind tunnel test of the proposed development:

(1) Topographic Model

Model scale: 1: 3,000.

(2) Proximity Model

(i) Model scale: 1: 500.
(ii) Extent of model: all known existing and proposed surrounding buildings and structures within a radius of 600 m from the subject site will be modeled.

(3) Wind Climate Study Results

Directional characteristics of typhoons affecting HK based on a Monte Carlo simulation of storms passing within 250km of HK

(4) Possible removal of adjacent buildings that could provide significant shelter

9 building groups were proposed to be removed in the Proximity Model.

(5) Wind Loads Adopted in Superstructure Design

The following in the superstructural design were proposed:

(i) The finally adopted peak design combined wind moment will not be less than 70% of the peak design wind moment as derived from Table 1 of the Code of Practice on Wind Effect in Hong Kong 2004 (the Wind Code);

(ii) If the peak design combined wind moment determined in the wind tunnel test is found greater than the peak design wind moment derived from Table 1 of the Wind Code, the peak design wind moments determined in the wind tunnel test will be adopted for design; and

(iii) The peak building acceleration assessment on human comfort under wind loads should be in accordance with the Code of Practice for Structural Use of Concrete 2013 clause 7.3.2. Limiting maximum peak acceleration at the top occupied floor of a commercial building or Hotel to $0.25 m/s^2$ should be adopted.

(6) Design Wind Pressures Adopted in Building Elements Design

The following in the building elements design were proposed:

(i) The finally adopted peak design wind pressures for external elements of the buildings including cladding and protrusions will not be less than 70% of the peak design wind pressures based on code calculation as derived from the design values given in the Wind Code even if the pressure found in the test are smaller.

(ii) If the peak design wind pressures determined in the wind tunnel test are found greater than the peak design wind pressures based on code calculation as derived from the design values given in the Wind Code, the peak design wind pressures determined in the wind tunnel test will be adopted for design.

Decision: Having noted the background information and arguments together with RSE's supervision arrangement, members endorsed the recommendation.