

Special Issue on Codification of Wind Loads

The five papers in this Special Issue of “Wind and Structures” represent the outcomes of five Working Groups on Codification set up by the International Association of Wind Engineering (IAWE).

At the Steering Group meeting of the IAWE held in Copenhagen in June 1999 (in conjunction with the 10th International Conference on Wind Engineering), it was agreed to set up a study group (‘International Codification Forum’) to address the issue of codification of wind loads. Some of the functions of this group were, to facilitate communication between active wind code writers, to establish a world-wide data-base of design wind speeds (with appropriate reliability tags), to work towards common agreement on code formats, and to liaise with related groups (such as ISO and Eurocode). The background to this is the ongoing push for expansion of world trade, and the removal of perceived barriers to trade in goods and services. Bodies such as the World Trade Organization see differing design standards for structural design as ‘technical barriers to trade’ in structural design services, and in certain manufactured products such as prefabricated buildings or lighting poles. It was clear that wind loading design codes on a national level, and on a multi-national level (such as Eurocode), have developed in different ways, and it is becoming more and more difficult for structural engineers to understand wind loading codes other than their own. This has occurred despite eleven international conferences on wind engineering over forty years, and numerous other smaller meetings, which have enabled the exchange of research results between wind engineering experts.

In Bochum, Germany, on September 15 2000, the first International Codification Workshop was organised by Dr. Michael Kasperski, following the Fourth International Symposium on Bluff-body Aerodynamics and Applications. At this meeting, five Working Groups were set up as follows:

WGA. Terminology, symbols, and format	(Convenor: K.C. Mehta)
WGB. Reliability and Code level	(Convenor: M. Kasperski)
WGC. Wind characteristics	(Convenor: H-J. Niemann - later replaced by J.D. Holmes due to Professor Niemann’s retirement)
WGD. Low rise structures	(Convenor: C.W. Letchford)
WGE. Dynamic response	(Convenor: Y. Tamura)

A sixth group was established later :

WGF. Extreme wind prediction and zoning (Convenor: J.D. Holmes)

The stated activities of these WGs were as follows:

- a. Assemble data for comparison purposes from major wind load codes
- b. Establish the parent data sources for information/approaches contained in codes.
- c. Rationalize differences between codes.
- d. Produce a document that succinctly highlights the information gathered and analysed for practitioners.
- e. Produce recommendations for future alignment and harmonization of wind codes

A second International Codification Workshop was held on October 25, 2001 in Kyoto, Japan, organized by Professor Yukio Tamura, and sponsored by the International Wind Engineering Forum (IWEF). At this meeting, several papers on codification were presented and progress reports given by some of the Working Groups. Communication between Working Group members continued by e-mail, as well as some *ad-hoc* meetings held at the time of other international and regional conferences on wind engineering during the last five years.

During the 11th International Conference on Wind Engineering (ICWE11) in Lubbock Texas in June 2003, a special session on codification was held (facilitated by Professor Chris Letchford), at which the Convenors of all the Working Groups presented their findings and recommendations. This session was very well attended with good participation from practicing structural engineers, as well as researchers in wind engineering.

The papers in this Special Issue are based on the papers from five of the Working Groups, that were presented at ICWE11; they have been revised extensively following discussions at the Conference, and following peer-reviewing for the journal. They form a comprehensive review of the international state-of-the art of codification for wind loads, and it is hoped that they will promote further alignment of the major national, regional and international standards. The results of Working Group A (Terminology, symbols and format) were not appropriate for a journal paper, but have been produced as a CD-ROM (available from Professor Kishor Mehta at Texas Tech University).

As General Convenor of the Codification Workshops of the IAWE during the past five years, I would sincerely like to thank the Convenors of the various WGs for the efforts they have made during that time (on a voluntary basis of course). I am grateful to Professor C-K Choi, the Managing Editor of 'Wind and Structures' for his cooperation in supervising of the reviewing and editorial process to bring this Special Issue to fruition during the past two years. Finally, I would like to thank the many participants in the Working Groups, some, but not all, of whom are authors of the papers in this Issue, and also the reviewers of the papers.

I commend this Special Issue to all persons involved in the codification of wind loads.

J. D. Holmes
Guest Editor