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site of the World Meteorological Organisation in Geneva, Switzerland.



Chairman's Column by Peter Bearman

17th January 2006-01-17

It is very pleasing to be able to report that on 2nd November 2005 the Society was treated to yet another excellent Scruton lecture. Peter Irwin of RWDI gave a very informative and wide ranging presentation on new directions in wind engineering under the title "Developing wind engineering techniques to optimise design and reduce risk in construction". More than a 100 people, drawn from WES members and non-members, attended the lecture at the Institution of Civil Engineers. There were many examples given in Peter's lecture of how wind engineering is progressing and how it has matured into an essential discipline for the construction industry.

During his lecture Peter Irwin illustrated a number of times the importance of ready access to reliable and extensive wind data. Hence it is very appropriate that the next meeting of WES is to be held at the Meteorological Office in Exeter. In addition to talks given by Met Office staff on modelling techniques, climate change and services provided, there will be a tour of the Met Office, including its Operations Centre. It is hoped that as many of you as possible will make the journey to Exeter for what promises to be an extremely interesting day.

I reported in my first newsletter that WES is reviewing its Wind Engineering Research Strategy to reflect developments since the first document was written in 1997. A paper has been prepared by Gordon Breeze and Nigel Wright summarising topics that should be included in an updated strategy and it will not surprise many to find a large number of themes continuing from the previous document. The Breeze/Wright paper advocates a two prong approach with a headline strategy, suitable for distributing to potential funding bodies, and a series of more specific projects. Support for this methodology was agreed by the WES Executive at its last meeting. Following this I arranged a meeting at Imperial College involving, Gordon Breeze, Brian Smith and Mike Graham, to carry the discussion forward. It is not our intention to spawn a large number of meetings and it is hoped that much of the dialogue can be carried out electronically. In due course we will circulate a draft to all members in order to obtain your views.

A number of interesting points have arisen from our discussions and here I highlight just two of them. Wind is an important source of renewable energy but in the UK the wind engineering and wind energy communities tend to work largely independently. Should WES be developing a greater interest in wind energy and incorporating aspects into its research strategy? The second topic involves a technique that has become well accepted in some application areas but remains controversial when applied in wind engineering. I am talking, of course, about CFD which, with the wide availability of commercial codes, is being applied to an increasing range of problems. Nobody doubts its potential in our field but many question its accuracy and reliability. Qualitatively, results are impressive and clients can be persuaded to go down the CFD route even though there may be large uncertainties associated with the predictions. The WES Research Strategy needs to address this problem but the challenge is how?



Codes and Standards by Brian Smith

The massive programme for the development of the Structural Eurocodes is now reaching completion. After some thirty years of development half of the 58 structural design codes have now been issued, and the remaining documents will be published by the end of this year.

Associated with the Codes themselves are the National Annexes, which provide the Nationally Determined Parameters where there are specific National requirements concerning geographic and climatic conditions (e.g. wind maps), procedures to be used where alternatives are given in the Code and issues of safety (e.g. partial safety factors). BSI hopes to publish virtually all National Annexes by the end of 2006.

This means that most civil engineering and building design will be using the Structural Eurocodes from 2007 and that the target deadline for withdrawing all existing UK National Standards by March 2010 will be met.

As far as wind loading is concerned the European 'Head' wind loading code is BSEN1991-1-4: Wind Actions, published as a British Standard, EN in April 2005. The National Annex to BSEN1991-1-4 has been drafted by the BSI Mirror Committee (the Committee responsible for producing BS6399 Part 2) and will be published shortly for public comment.

National Annexes can only contain information on those parameters that are left open in the Eurocode for National Choice, although recommended values are given in the Eurocode. These parameters / values / procedures are identified in specific clauses, a list of which is given in the front of the Eurocode. EN1991-1-4 is exceptional in that no fewer than 53 clauses can have information provided in the National Annex allowing 66 Nationally Determined Parameters. Thus the National Annex for this Eurocode Part is long compared with National Annexes for other Parts.

Particular areas where the draft National Annex (NA) differs from the Eurocode are

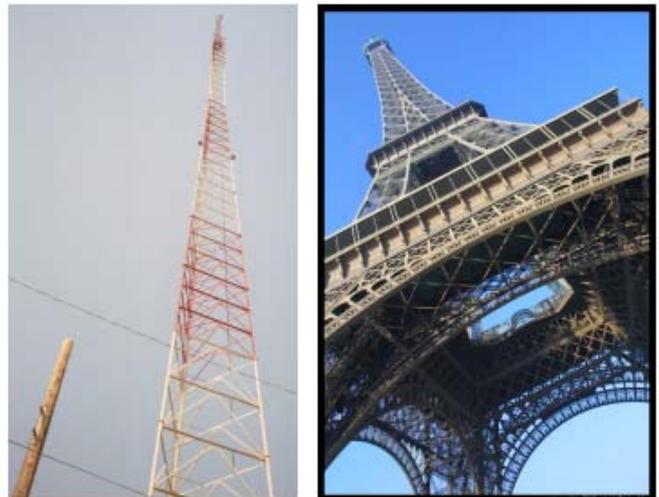
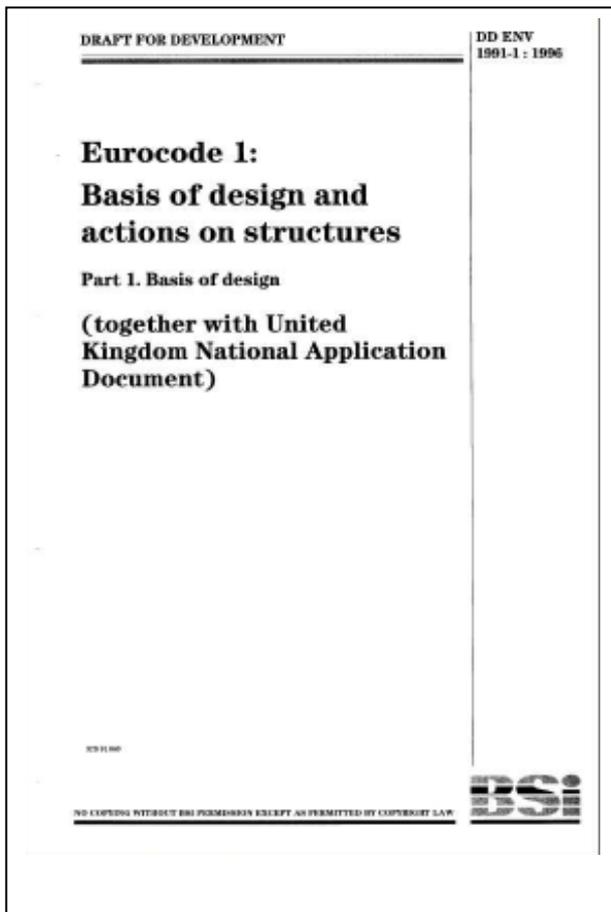
- terrain categories where the Code contains 5 categories and the NA groups these into 3 (as per BS6399 Part 2).
- the altitude factor which is amended to reduce with height above ground.
- the peak velocity pressure where the Code gives a simplified linearised formula and the NA uses current practice which involves a squared term.
- the size factor and dynamic factor, defined as a product in the Code, are separated in the NA.
- the NA provides increased asymmetric loading compared with the Code.
- the NA provides net pressure coefficients for overall loads on walls of buildings.
- the Annex on vortex shedding and aeroelastic instabilities in the Code is insufficient to cover bridges. It has thus been augmented by data, primarily from BD49 – the Highways Agency design document for aerodynamic effects on bridges – and will be published as a separate document probably by BSI.

In drafting the NA a review was made of the basic wind speed map for the United Kingdom. A new 10 minute mean wind map has been produced and included in the NA. A compatible hourly mean wind map has also been produced which may be included in any future amendment to BS6399 Part 2.

The Eurocode on lattice towers and masts (EN1993-3-1) contains an annex that deals with wind actions and wind response for these wind sensitive structures – such structures are outside the scope of EN1991-1-4 – but eventually this Annex will be brought into EN1991-1-4. EN1993-3-1 has been approved by formal voting of the Member States and will shortly be published as a British Standard EN. The National Annex for this Code is under preparation and will be published for public comment later this year.

B.W. Smith

Flint & Neill Partnership





Meeting ; *AT THE* METEOROLOGICAL OFFICE FITZROY ROAD, EXETER EX1 3PB

Wednesday 8th February 2006 at 1.15pm

At the

METEOROLOGICAL OFFICE VISIT

Chairman

Brian Lee

University of Portsmouth

Agenda

- | | | |
|-------|--|--|
| 13.15 | Tour of the Meteorological Office
and Operations Centre | |
| 14.00 | The Severe Weather Impacts Model | Danny Johns
Public Weather Services Consultant |
| 14.15 | Climate Change | Fiona Hewer
Science Development Manager |
| 14.45 | Met Office Ensemble modelling | Alberto Arribas
Ensemble Forecasting Research Scientist |
| 15.15 | Refreshment break | |
| 15.30 | Wind Energy services | Tbc |
| 16.00 | Building and Construction services | Tbc |
| 16.30 | Close | |



Wind
Engineering
Society



UNIVERSITY
of
GLASGOW



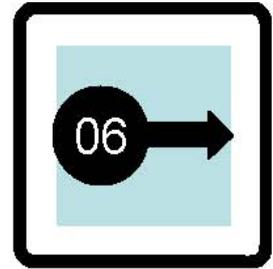
7th UK Conference on Wind Engineering

WES 06

First Announcement

Kelvin Conference Centre, Glasgow, UK

4th – 6th September 2006



Preparations for the 7th UKWEC, which this year is being co-hosted by the Universities of Glasgow and Strathclyde, are proceeding well. Initial flyers have been circulated both nationally and internationally, and a copy of the flyer has also been posted on the WES home page. The conference will be held at the University of Glasgow's Kelvin Conference Centre (KCC), a purpose built conference venue located in three acres of woodland on the north-west boundary of the city of Glasgow. The KCC is an ideal venue, offering good en-suite accommodation and catering facilities adjacent to the main conference lecture theatre. The secluded nature of the venue should encourage a more social atmosphere (an evening bar facility will be provided), where technical discussions can be developed beyond the confines of the meeting room. One page abstracts, on any area related to Wind Engineering, should be submitted by 31 March 2006. Fee structure and registration details are currently being finalised, and will be advertised by the end of January 2006.



KCC and Wolfson Hall



Main Lecture Theatre



Call for Papers

We welcome papers from anybody associated with the field of wind engineering on any relevant subject. These include, but are not limited to

- Extreme winds
- Bluff Bodies
- Model, full scale or desk studies
- Codes and standards
- Computational techniques
- Applied wind forces
- Street level environment
- Wind characteristics
- Buildings
- Response to wind loading
- Wind environment
- Dispersion
- Meteorological studies
- Risk Analysis
- New techniques or design

Procedures

One page abstracts are required by **31st March 2006**. Accepted abstracts will need to be developed into extended abstracts of 4 pages in length and be submitted by 1 August 2006. Registration details and conference fees will be announced shortly.

For more information contact:

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Other Events

2006

The fourth International Symposium on Computational Wind Engineering (CWE2006). Pacifico Yokohama, Yokohama, Japan. July 16 – 19. <http://www.wind.arch.t-kougei.ac.jp/cwe2006/>

2007

➤ **12th International Conference on Wind Engineering (ICWE12)**

Cairns, Queensland, Australia, 1 – 6 July
www.awes.org/icwe1



Royal Meteorological Society Forthcoming Events

Non-members are welcome to attend the Wednesday meetings without charge or registration.

January 2006

Sun 29  [86th Annual Meeting of the American Meteorological Society](#) Atlanta, USA
(12:00 am)

February 2006

Fri 10  [Postgraduate Student Evening and Scottish Centre AGM](#) Institute of
(5:00 pm) Geography, University of Edinburgh, Drummond Street

Fri 10  [Presenting weather in the media](#) North East Local Centre
(7:45 pm)

Tue 14  [Mesoscale Processes in Atmosphere, Ocean and Environmental Systems](#)
(12:00 am) Indian Institute of Technology Delhi
Hauz Khas, New Delhi

Wed 15  [Urban Meteorology](#) Zoological Society of London Meeting Rooms, London
(2:00 pm) Zoo, Regent's Park

Sat 18  [Weather and Sailing](#) Lancashire Cricket Club, Old Trafford, Manchester
(9:00 am)

March 2006

Wed 1  [Spring meeting, date to be confirmed: The challenges of the interaction of
\(12:00 am\) physical processes and data assimilation](#)

Fri 10  [Understanding the science of weather in schools: Various speakers at the
\(5:00 pm\) Scottish Centre](#) Institute of Geography, University of Edinburgh, Drummond
Street.

Fri 10  [The self-reliant fisherman and the barometer: meteorological expertise in
\(7:45 pm\) mid-Victorian Britain](#) The North East Centre

Wed 15  [Hurricanes](#) Zoological Society of London Meeting Rooms, London Zoo,
(2:00 pm) Regents Park, London NW1 4RY

Thu 16  [Whither the weather by Internet: The Royal Meteorological Society's
\(12:00 am\) Flagship online weather project MetlinkInternational](#)

April 2006

Sat 1  [Reunion - ATCC Barton Hall](#)
(12:00 am)

Sat 1  [History Group AGM](#) Science Museum Annexe, Blythe House, Kensington,



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- (10:30 am) London, W14 0QX (see map above)
- Sun 2  [General Assembly of the European Geosciences Union](#) Vienna, Austria
- (12:00 am)
- Wed 5  [METEOROLOGY OR METROLOGY](#) National Physical Laboratory,
(12:00 am) Teddington, Middx
- Fri 7  [Winter 2005/06 - A Review; How Did UK plc Cope?](#) The North East Centre
(7:45 pm)
- Wed 19  [Forecasting UK and European Winters](#) Zoological Society of London
(2:00 pm) Meeting Rooms, London Zoo, Regent's Park, London NW1 4RY.

People

Nigel Wright has been promoted to a personal chair at the University of Nottingham and is taking leave of absence from April 1st to take up a Chair in Hydraulic Engineering and River Basin Development at UNESCO-IHE in Delft, the Netherlands. UNESCO-IHE is a UNESCO-sponsored institute that conducts research and teaching in water resources with a particular focus on international issues. All its students are international postgraduates.

Despite his increased focus on water issues in Delft, Nigel intends to continue research in wind engineering with colleagues and students at Nottingham and elsewhere. Expect him to appear at WES meetings as the airfare from the Netherlands to London is less than the train fare from Nottingham!

Dr David Hargreaves has recently been appointed as Lecturer in the School of Civil Engineering at the University of Nottingham. Dr Hargreaves has been appointed primarily to apply his long and varied experience of modelling environmental fluid flows to assist in the creation of a new Civil and Environmental Engineering Degree course. In addition, Dr Hargreaves will continue Nottingham's interest in wind engineering, first started by Professor Chris Baker (now at the University of Birmingham) and then ably developed by Professor Nigel Wright. Indeed, the two professors were respectively Dr Hargreaves' PhD supervisor and internal examiner. As the emphasis on Nottingham's interest in wind engineering has, over the years, shifted from the experimental to the computational, Dr Hargreaves brings nearly a decades' worth of applied CFD experience to the post. Having cut his teeth working for Fluent in Sheffield, he recently returned to Nottingham where he has been assisting Dr Herve Morvan in the development of an EPSRC-funded Summer School in CFD and various CFD-based modules.



Many Thanks

To our newsletter editor of the last few years, Mark Sterling. His wit and charm have been much appreciated over the course of many editions.



Calling all engineers!

We need your news, announcements, discoveries, ideas, photos and opinions. Please get in touch with your new editorial team via graham.knapp@burohappold.com.

We are particularly interested in publishing a review of key research and commercial sites around Europe and the rest of the world. Please contact us if you have any useful suggestions for which organisations to cover.

Thank you,

The Editors:

Gwenaëlle Ambühl and Graham Knapp

