Indian Association of Structural Engineers

Cordially invites you to

Technical Lecture on

Estimation of Wind Loads on Buildings as per IS 875-3-2015

by

Dr. Ashok K. Jain

Retired Professor, I.I.T. Roorkee

at

Lecture Room, Consultancy Development Centre

2nd Floor, Core 4B, India Habitat Centre
Lodhi Road, New Delhi 110 003

on

Thursday, 23rd November 2017
Starting at 05:00 pm

Please confirm your participation

S K DHAWAN, Chairman, Monthly Lecture & Technical Discussion
Email: iastructe@gmail.com, Tel: (011) 45794829

(Light refreshment will be served)

ABOUT THE FACULTY

Prof. Dr Ashok K. Jain obtained degrees of B.Sc. from Meerut University in 1968, B. E. (Civil) with honours from University of Roorkee in 1972, M.E. (Structures) with honours from University of Roorkee in 1974, and Ph.D. from University of Michigan, Ann Arbor (USA) in 1978. He joined University of Roorkee in September 1979 as Lecturer and became Professor of Civil Engineering in 1991, and later served as Head of Department. He retired from IIT Roorkee in May 2016. A national scholarship holder from the Meerut University, he is a recipient of Chancellor's bronze medal, four gold, and five silver medals from the University of Roorkee, and best papers awards from the Institution of Engineers, Indian Society of Earthquake Technology, and University of Roorkee. His main areas of interest include multistoreyed buildings, towers and bridges, and earthquake resistant design of RC and steel structures.

A former Director, Malaviya National Institute of Technology, Jaipur, (a deemed university under MHRD, New Delhi), he has been a post doctoral research fellow at the University of Michigan, and visiting Scholar / Professor at the University of Illinois, Chicago, and McGill University, Montreal, and Nepal Engineering College, Kathmandu. He has authored five text books on structures and computers, and published over 125 papers in reputed national and international journals and conferences. He carried out pioneering work on the post buckling inelastic response of steel bracing members and concentric braced frames. Prof. Dr Jain has delivered many lectures on Limit state design concepts, Structural dynamics, Earthquake resistant design and Detailing of reinforcement to field engineers in various parts of the country.

He is a Fellow of the Institution of Engineers and Indian Association of Structural Engineers, and Life member of Indian Concrete Institute, Chennai, and Indian Society of Earthquake Technology, Roorkee. Prof. Dr. Jain is consultant to several private and government agencies in the area of structural engineering and earthquake resistant design, and former member of various committees of the Bureau of Indian Standards, New Delhi.

Estimation of Wind Loads on Buildings as per IS 875-3-2015

The code on wind loads has been revised after nearly 30 years. There are many significant changes both in the static and dynamic wind load estimation. Some changes are based on the Australian code and Eurocode 1-1-4. For the last few decades, there has been too much focus on earthquake loads in India as if wind load doesn't exist. The load combination 1.5 DL + 1.5 EQ is such a severe combination, that it encompasses all most all other combinations as well as wind loads. There are designers who do not bother to check the buildings for wind loads any more. Is this a desirable scenario? Is it conservative or too much conservative or even unsafe? Each building must be checked for static wind loads. However, buildings whose fundamental period is more than 1 sec or buildings in which height to least lateral dimension ratio is more than 5, must be checked for dynamic wind loads. It means that every building, which is about 12 storeys or more must be checked for dynamic wind using the gust factor method. Under certain conditions, wind tunnel test is necessary.

The wind coefficients for various buildings and other structures, as well as definition figures in the previous edition have been revised. The errata runs in eight pages, which is unprecedented. Still there are confusions as to which is correct? Instead of graphs for various parameters, equations have been specified that are convenient and accurate for use. Both along wind response and across wind response of buildings have been covered in the revised code.

The purpose of this lecture is to highlight various revisions in the code, and discuss how to estimate dynamic wind loads for multistorey buildings.