



ASHRAE Hong Kong Chapter

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Supporting University:



ASHRAE Distinguished Lecturer Series

Technical Seminar on Application and Experience Sharing on Thermal Energy Storage for Energy Efficient Building Design

Date : 13 June 2019 (Thursday)

Time : 2:30pm – 5:30pm (Registration will start at 2:00pm)

Venue : Y304, The Hong Kong Polytechnic University, Hung Hom, Kowloon

Background:

Thermal Energy Storage (TES) used for Off-Peak Cooling of buildings, has a long history around the world with over 7,000 commercial installations in 40 countries. By storing cooling at night, in the form of ice or chilled water, and using it during the day to cool the buildings, major reductions in on-peak electric demand and energy costs are realized. This technical seminar will demonstrate the basic types of TES systems, how energy storage on both the Grid side and Building side of the meter will be covered along with their respective applications and the myths surrounding Ice-based TES. The speakers also share their experience on design, installation and commissioning of Ice Thermal Storage System.

Topic 1:

Energy Storage, Smart Grid and Zero Energy Buildings: Building Capacitance Together

(GBCI Approved | 1 CE Hour | 0920017339; AIA Approved | 1LU | MacCracken01)

Whether the reason is Energy Independence, National Security or Climate Change, reducing our use of Carbon will be critical to our society's future. One critically important aspect about fossil fuels is that they are not just forms of energy, they are forms of "stored" energy. If we are going to reduce our dependence on them by using renewable energy like Wind or Solar, which are forms pure energy, we will also have to replace the storage aspect of the them. Energy Storage on both the Grid side and Building side of the meter will be covered along with their respective applications.

Topic 2:

TES Myths

Thermal Energy Storage, used for Off-Peak Cooling buildings, has a long history around the world. The technology's application in commercial cooling has evolved and improved over the past three decades; however, myths continue to keep it from becoming a staple in energy efficient building design. This talk covers some of the myths surrounding Ice-based TES.

Supporting organizations:



BEAM
建築環保評估協會



BUSINESS ENVIRONMENT COUNCIL
商界環保協會



BSOMES



CIBSE 40
Hong Kong



HKAE 香港能源工程師學會
Hong Kong Association of Energy Engineers



HKGBC
香港綠色建築議會



HKIE THE HONG KONG INSTITUTE OF ENGINEERS
香港工程師學會
Building Services Division
屋宇設備分部



IFMA Hong Kong Chapter
International Facility Management Association



platinum



engineering success
soe hong kong region
能源工程師學會 香港分會



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Supporting University:



Speaker:

Mark M. MacCracken, *ASHRAE Distinguished Lecturer, P.E., Pte., LEED Fellow*



Mark M. MacCracken is the CEO of CALMAC Manufacturing Corporation, whose main products are used for off-peak cooling of buildings using Thermal Energy Storage. In his almost 40 years with the firm, he has been involved in all aspects of the company including, R&D contracts, patents, manufacturing, marketing and finance. He was the principal investigator on research projects contracted by Oak Ridge National Labs, NASA and National Renewable Energy Research Lab (SERI).

Mr. MacCracken's company has been involved in over 4,000 thermal storage systems in 37 countries. He has three U. S. patents, is a licensed Professional Engineer in the state of New Jersey and has written numerous technical articles. He was the 2011 Chair of USGBC's Board of Directors, Vice-Chair of ASHRAE Standard 1891.1, the former Chair of ASHRAE's Thermal Storage Technical Committee, and on the Board of Director's of AHRI.

Topic 3:

Experience Sharing on Application of Ice Thermal Storage in Asia Region

Large Scale Ice Storage system was applied to Marina Bay DCS Plant in Singapore, KLCC (Kuala Lumpur City Center Project) and other DCS plant. The speaker will share his 29-year project experience on the design, installation and commissioning of Marina Bay DCS Plant and KLCC DCS plant. Through his experience, the required considerations to apply Ice Storage will be explained.

Speaker:

Noriyasu Maehara, *PhD*



Dr. Noriyasu Maehara is Business Section Chief Engineer of Mitsubishi Heavy Industries, Thermal Systems Co, Ltd. He got Master Degree in Chemical Engineering in Kyoto University and Doctor of Philosophy (PhD) in Sustainable Energy and Environmental Engineering in Osaka University. His theme for PhD was District Cooling System (DCS) plant optimization and those study result had been implemented in actual DCS plant engineering in Asia region. He has been working in the District Heating and Cooling Plant industry since 1990. His project portfolio includes the Kuala Lumpur Sentral DCS, Kuala Lumpur City Centre DCS, Singapore District Cooling Plant – Marina South, Shinagawa Station East Area DCS, Tokyo and Kansai International Airport DCS, Osaka in Japan.

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Language: English

Fee: HK\$ 300 [Member of ASHRAE Hong Kong]
HK\$ 350 [Member / Staff of Supporting Organizations]
HK\$ 400 [Standard]

Remark: 3-hour CPD certificate will be provided.

Registration & Enquiry:

Number of participants is limited and prior registration is required. For registration, please complete Registration Form in the following link: <https://forms.gle/9cTwP3W5T3qZWgR2A>. The deadline of application is on 9 June 2019.

After online registration, please make a crossed cheque payable to "ASHRAE Hong Kong Chapter" and post to our mail box at "P.O. Box 35612, King's Road Post Office, North Point, Hong Kong". At the back of cheque, please kindly state "ASHRAE DL Series – Mark MacCracken", Name of Participant, Name of Company / Organization and Contact Number.

Successful members will be notified by e-mail on or before 10 June 2019, which has to be presented at the registry of the venue entrance for verification. If the applicants have not received the confirmation e-mail on or before 10 June 2019, their applications will be regarded as not successful.

If typhoon signal no. 8 or black rainstorm signal is in force and still hoisted after 1:00 pm on that date, the workshop would be cancelled without further notification.

For enquiry, please contact Mr. Chris Kwan at email to ashraehk@gmail.com.

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