

ASHRAE Region XIII – 21st Chapters Regional Conference
Technical Seminar on ‘Building Retro-Commissioning for System Optimization’

Date : 17 August 2018 (Friday)
Time : 9:00am – 12:15pm (Registration will start at 8:30am)
Venue : Grand Ballroom II, 1/F, Crowne Plaza Hong Kong Kowloon East

Background:

In the Energy Saving Plan for Hong Kong’s Built Environment 2015~2025+ published by Environment Bureau in collaboration with Development Bureau and Transport and Housing Bureau in May 2015, it is stated that “Retro-commissioning” is one of the key initiatives to promote energy saving for existing building. Retro-commissioning (RCx) is a systematic process to periodically check an existing building’s performance to identify operational improvements that can save energy and thus lower energy bills and improve indoor environment. In 2017, The Electrical and Mechanical Services Department has formally launched Technical Guidelines on Retro-commissioning to promote RCx in existing buildings to echo the Energy Saving Plan.

This technical seminar focuses on retro-commissioning for system optimization with a goal of energy savings. Apart from the explanation of the general RCx process, case studies and experience sharing on actual RCx application for energy saving achievement, Expert of ASHRAE Distinguished Lecturer will also share his experience on RCx by implementation of ASHRAE commissioning guidelines.

Topic 1:

Retro-commissioning for Energy Efficient Buildings in Hong Kong

More than half (55%) of Hong Kong’s total annual energy end-use is in the form of electricity consumption and buildings take up about 90% of our total electricity consumption. It is imperative to reduce the use of electricity in buildings to help us combat climate change. At the same time, Hong Kong has the highest building density in the world, of which around 60% of the buildings are over 25 years old. The saving potential of these buildings would be significant.

Electrical and Mechanical Services Department (EMSD) is actively pursuing the cost-effective program of "Retro-commissioning" (RCx) to further encourage energy conservation works in existing buildings. RCx is a cost-effective and systematic process to periodically check an existing building’s performance. Through the use of data trending, professional analysis and diagnosis, RCx helps to develop a scientific based optimization scheme and make continuous improvement.

EMSD has developed Technical Guidelines on Retro-commissioning in order to drive the wider spread of RCx in existing buildings. This topic will introduce the framework of technical guidelines and include some technical approaches from real cases, which explain the general RCx process and focus, and the energy-saving improvement proposals for building owners and the industry. EMSD hope that both public and private sectors can work together to improve overall energy performance of buildings in Hong Kong.

Supporting organizations:



**Speaker:****KONG Ka-wah**

Ir Kong Ka-wah is Senior Engineer of Electrical and Mechanical Services Department (EMSD), Government of Hong Kong Special Administrative Region. Ir Kong has over 18 years' experience in implementing energy sustainable solutions to building services design and project management of a wide variety of government projects. In recent years, he has been actively involved in reviewing for Building Energy Code (BEC) 2018 edition under Building Energy Efficiency Ordinance (BEEO), including serving as secretary of the Technical Taskforce & members of its Working Groups. He has been actively involved in development of Technical Guidelines on Retro-commissioning. Ir Kong is now leading a team of engineers tasked to promote BEEO and retro-commissioning to stakeholders as well as the general public in Hong Kong.

Topic 2:**Driving for Retro-commissioning as a Best Practice for the Industry**

The HKSAR has identified retro-commissioning as one of the strategy in meeting the COP 21 objectives. The Hong Kong Green building Council has been engaged to play the role of driving retro-commissioning to becoming a best practice for the industry. To this end, the Council has launched a program named "ACT-Shop" with the aim to build up the capacity of the industry on retro-commissioning. This topic will discuss on the ACT-Shop program itself and how it is further developed as a strategic plan for driving retro-commissioning to the industry.

**Speaker:****CHAN Wing-hong, Cary, JP**

Ir Cary Chan is a professional engineer and is currently the Executive Director of Hong Kong Green Building Council. Over the years, he has carried out a lot of researches and energy saving initiatives with substantial improvements in energy performance of buildings. Some of his works have won international awards, which includes Client of the Year - Low Carbon Operation Award by the Chartered Institution of Building Services Engineers in 2010. Ir Chan is also active in serving the professional and business communities with his expertise. Recently, Ir Chan has been appointed as Justices of the Peace (JP) by the Government of the Hong Kong Special Administrative Region.

Topic 3:**Retro-commissioning for Energy Savings**

[GBCI Approved | 1 CE Hour | 0920010383 / AIA Approved | 1LU | BOHANON03]

What is retro commissioning? Is it required by LEED? How can a process save energy? What are some of the aspects of an energy saving retro-commissioning application? What guidance is available from ASHRAE guidelines? What are the types of savings from the process and what are the critical components to assure that savings are realized?

**Speaker:****Hoy R. Bohanon, Jr., P.E.** (ASHRAE Distinguished Lecturer)

Hoy Bohanon, PE, LEED AP, BEAP is principal in Hoy Bohanon Engineering, PLLC, a firm that focuses on improving the performance of existing mission critical buildings. Mr. Bohanon began his engineering career as a research and design engineer, and then gained experience as a project engineer, facilities engineer, facilities manager, indoor air quality research engineer, environmental engineer, and business owner. He has a master's degree in engineering from North Carolina State University, and a bachelor's degree in mechanical engineering from Georgia Institute of Technology.

Supporting organizations:



Mr. Bohanon has written technical papers and articles on indoor air quality, operations, and maintenance and is a frequent presenter at technical society meetings. He is a recipient of the ASHRAE Distinguished Service Award and is chair of ASHRAE Standard 62.1 committee, *Ventilation for Acceptable Indoor Air Quality*. He also serves on the bEQ committee. He is chair of the US Technical Advisory Group panel 1 (general principles) and panel 4 (indoor air quality) for ISO TC205 *Building Environment Design*. He is a co-author of *The Indoor Air Quality Guide: Best Practices for Design, Construction and Commissioning* and *Performance Metric Protocols for Commercial Buildings: Best Practices Guide*. He also teaches multiple courses for the ASHRAE Learning Institute addressing ASHRAE 62.1 and IAQ. Mr. Bohanon is also a member of the Professional Engineers of North Carolina, US Green Building Council, and I2SL.

Topic 4:

Sharing of Monitoring-based Commissioning (MBCx) Experience for Large Commercial Development

The major source of carbon emissions in cities is the building sector. Hong Kong's buildings account for about 90% of the city's electricity usage. Over 60% of our carbon emissions are attributable to generating electricity for our buildings. Therefore, achieving energy saving in the buildings sector is primary target for the short-and-long-term. Moreover, over 80% of buildings in Hong Kong are more than 10 years, how to maximize the energy saving potential of existing commercial buildings becomes a critical success factor.

Most of Swire Properties' Portfolios operated over 20 years and chiller replacement works have also been completed across portfolios in recent years. Therefore, a three-year monitoring-based commissioning (MBCx) plan has rolled out for Hong Kong Portfolios to enable persistence of energy savings.

A systematic MBCx plan with the aim of optimizing system operation, diagnosis of energy waste trend, identifying improvement for existing building has been commenced in 2017. Case study and examples of applying MBCx in different stages for different type of Portfolios will be presented during the talk and look forward to further discussion on MBCx.



Speaker:

Raymond Yau, PhD

Dr Raymond Yau is the General Manager, Technical Services & Sustainable Development in Swire Properties Limited, leading the Department of Technical Services and Sustainability to formulate and provide support to implement sustainability strategies within Swire Properties and to provide technical support to the company's operation across Hong Kong, Mainland China and the US in order to ensure that its real estate assets are safeguarded and the standards in environmental performance, energy management are upheld. Under his leadership of TSSD, Swire Properties received the inaugural Green Building Leadership Grand Award of Green Building Award 2016 and won the Energy Management Initiative Award of CIBSE Building Performance Awards 2017. He is currently leading the Monitoring-based Retro-commissioning program of HVAC Systems in all portfolios.

Dr Yau is responsible for the sustainability index submissions for DJSI, GRESB and Hang Seng Corporate Sustainability Indices. Swire Properties was recently listed in two major global sustainability indices in 2017 – DJSI World and GRESB.

Before joining Swire, Dr Yau was Arup Fellow and director of Arup in Hong Kong, an international engineering consultant, with over 28 years of experience on the design of sustainable and environmental friendly buildings, and infrastructure and on sustainability consulting across the globe. Dr Yau received the Innovation Award for the Engineering Industry from the Hong Kong Institute of Engineers in 2013 on Construction Category of the Champion Project CIC Zero Carbon Building for his role as the Principal Investigator.

Supporting organizations:



Dr Yau is currently a Director of Business Environment Council in 2016 -2018 and a committee member of China Green Building Council. He was a director of Hong Kong Green Building Council in 2012-2015. He also served as a Board of Director of BSL in 2012 -2015 and chairperson of TRC in 2013-2015, and regional vice-chair of ASHRAE Region 13 in 2007-2010 and past president of ASHRAE Hong Kong Chapter in 2002 – 2003. Dr Yau was Honorary Professor of the University of Hong Kong and is presently Guest Professor of Chongqing University, China.

Dr Yau is a member of Technical Taskforce on Mandatory Implementation of the Building Energy Code.

Language: English

Fee (**included luncheon**): Early Bird (On or before 15 July 2018)
HK\$ 1,000 [Members of ASHRAE Hong Kong Chapter]
HK\$ 1,200 [Members / Staff of Supporting Organizations]
HK\$ 1,400 [Standard]

Regular Price (On-site or after 15 July 2018)
HK\$ 1,150 [Members of ASHRAE Hong Kong Chapter]
HK\$ 1,350 [Members / Staff of Supporting Organizations]
HK\$ 1,560 [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://goo.gl/forms/4sG3kIhk0iXygzUz2>. The deadline of application is on 8 August 2018. Successful members will be notified by e-mail on or before 10 August 2018. If the applicants have not received the confirmation e-mail on or before 10 August 2018, their applications will be regarded as not successful.

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" and send the copy of the cheque to crc2018hk@gmail.com. At the back of cheque, please kindly state "CRC 2018 – Technical Seminar", Name of Participant, Name of Company / Organization and Contact Number.

If typhoon signal no. 8 or black rainstorm signal is in force and still hoisted after 8:00 am of 17 August 2018, the seminar would be cancelled without further notification.

For enquiry, please contact our CRC2018 Technical Program Chair, Mr. Patrick Huang at email to crc2018hk@gmail.com.

Supporting organizations:

