IEM M&E Forum 2016 Report

MECHANICAL ENGINEERING TECHNICAL DIVISION

reported by
Mr. Mok Zhen Yick

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The ASEAN Premier Mechanical & Electrical Engineering Show was held on 23-25 May, 2016, at the Kuala Lumpur Convention Centre. In conjunction with the event, Institution of Engineers, Malaysia (IEM), in collaboration with UBM, organised the IEM M&E forum.

The objective was to provide a platform for engineers and other professionals to evaluate and gain ideas on challenges and opportunities in technological developments and innovations. There were 2 streams of subjects for the forum, with 3-4 topics and speakers for each subject.

Subjects for Stream 1 were Green Energy & Sustainable, Power and REVAC (Refrigeration, Ventilation and Air-Conditioning). The speakers were Ir. Gary Lim, Mr. James Chua, Mr. Ferdinand Ng, Ir. Dr Aidil Chee Tahir, Ir. Kok Yen Kwan, Dato' Dr Ali Askar, Ir. Francis, Ir. Yau Chau Fong, Ir. Haji Nur Ali bin Omar, Ir. Frankie Chong, Ir. Soong Peng Soon, Ir. Dr Tan Chee Fai, Ir. Al-Khairi and Ir. Daniel Lim Kim Chuan.

Subjects for Stream 2 consisted of Development in Code and Standards, M&E Infrastructure and Safety and Risk Control and the speakers were Ir. Lum Youk Lee, Ir. Tim Hon Wa, Ir. Thin Choon Chai, Ir. Tan Yiing Yee, Ir. Oon Chee Kheng, Ir. Syed Neguib, Ir. Fam Yew Hin, Mr. Chow Kin Liung, Mr. Gergers Reimann, Ir. Dr Cheong Thiam Fook, Mr. Felipe Ong, Mr. Raghib, Mr. Derrick Wong and Ir. Kim Kek Seong.

Ir. Loo Chee Kin and Ir. Puvanesan were also invited to present the topic on "COPE in Code Assessment and Risk Management" and "Flood Pumping Stations" respectively during the breaks.

Ir. Gary Lim presented the topic on "Conservation of Water-Apply Basic Engineering Principles". First, he described the water issues the country was facing. He said conservation of water should start at design stage, from the selection of water efficient fittings to the rainwater system for toilet flushing, general cleaning and landscaping. He said that according to a new clause in the Uniform Building By-Law, approved in 2011, rainwater harvesting systems must be installed in new semi-detached homes, bungalows and government buildings in order to get approval for the building plan.

Exhibitors at the ASEAN M&E Show Exhibition.

Mr. Ferdinand Ng spoke on "Hydrocarbon as Greener and More Efficient Refrigerants" and expressed concern over the huge impact that refrigerant gas had on our environment, such as ozone depletion and global warming. The solution, he said, is hydrocarbon refrigerant (HC), which is environmental friendly, non-ozone depleting and non-global warming. There are 3 types of hydrocarbons: HC12a, HC22a, and HC502a, designed to replace CFC/HCFC/HFC refrigerants in commercial and industrial air conditioners and refrigerators.

Ir. Soong spoke on "Commissioning Process for Smoke Management System". He introduced the BS7346-8:2013 (Code of practice for planning, design, installation, commissioning and maintenance) and ASHRAE Guideline 1.5-2012 (the commissioning process for smoke control systems). He explained the use of the flow chart in BS7346-8:2013, which had 5 stages: Identify system requirements, planning and design, installation, commissioning and verification of correct operation, maintenance and servicing.

Ir. Dr Tan Chee Fai spoke on "IoT for REVAC". He explained that Internet of Things (IoT) can totally transform industry today, by connecting people, things and data. IoT is the fourth industrial revolution that provides mass opportunities and benefits such as improved operational efficiency through predictive maintenance and remote management, collaboration between humans and machines, which will result in unprecedented levels of productivity and more engaging work experiences. But, IoT also poses risks and challenges, such as security and data privacy, lack of interoperability among existing systems,

uncertain return on investments on new technologies and the lack of data governance rules across geographic boundaries.

Ir. Yim Hon Wa, who spoke on "Building Permit-OSC 3.0 & CCC", explained the roles of submitting persons. The Principal Submitting Person (PSP), as stated in Act 133, is a qualified person who submits building plans to the local authority for approval. There are 6 phases and processes involved, from the beginning of the project until the completion of the project: Data gathering, deliberation an application, notification to start work, interim inspection, final inspection and building certification.

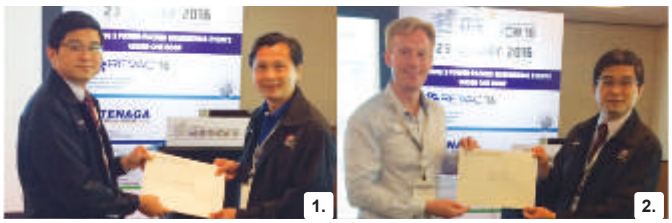
For "New UBBL", Ir. Thin Choon Chai updated participants on the new UBBL 1984, which referred to the Malaysian Standard in design such as Part VIII (fire alarm, fire detection, fire extinguishing and fire fighting access), By-Law 225(b)-(2) in which every building must be served by at least one fire hydrant, located not more than 45m (90m previously) from the fire brigade access in accordance with MS1489 Pillar Hydrant.

Mr. Chow Kin Liung, senior director of Industry Development Division from SPAN, spoke on "Regulatory Compliance to Water Services Industry Act 2006 (WSIA) for Water and Sewage Works", in 4 parts: Industry Reform, SPAN function, Regulatory Compliance, and WEPLS (Water Efficient Products Labelling Scheme).

The speaker for "Emphasising Controls In Green Buildings (Air-Conditioning Systems)", Ir. Daniel Lim, stressed on the importance of getting the control setting right as poor control will result in poor energy consumption management, contributing to the greenhouse effect and energy loss. He also highlighted the key controls consideration by determining the correct sensors, deriving the control flow, determining the number and types control loops, deriving the approximate setting of the constants, and finally, fine tuning the proportional band, integral action time and derivative action time. All these, he said, required engineering expertise.

Mr. Gregers Reimann from IEN Consultants Sdn. Bhd. spoke on "Water Use Reduction in Green Buildings". He highlighted the case study of Menara Kerja Raya (KKR2) which used treated grey water and rainwater. He said grey water collected for recycling must be treated as soon as possible, or within 24 hours, before it turns septic. The grey water treatment plant would require sufficient ventilation and a chlorine dosing system.

Participants at the forum not only gained invaluable knowledge and insight from speakers in various industries but were also urged to promote sustainable technology. In his topic on "Green Technology & Sustainable Development", Ir. Dr Aidil said green technology should contribute to strong economic development while protecting and enhancing the environment as well as ensuring social well-being for the community. ■



1. *Session Chairman Ir. Fam Yew Hin presents an appreciation token to Ir. Dr Cheong Thiam Fook.*
2. *Session Chairman Ir. Fam Yew Hin presents an appreciation token to Mr. Gergers Reimann.*