### **Consulting Engineering Special Interest Group**

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## 2-Day Seminar on "High Performance Chiller Plant"

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- **FULL PAYMENT** must be settled before commencement of the course, otherwise participants will not be allowed to enter the hall. If a place is reserved and the intended participants fail to attend the course, the fee is to be settled in full. If the participant failed to attend the course, the fee paid is non refundable. IEM reserve the right to reject any LOU/LOG not in accordance with these instructions.
- The Organising Committee reserves the right alter or change the program due to unforeseen circumstances.



Organised by:

Consulting Engineering Special Interest Group, The Institution of Engineers, Malaysia

# 2-Day Seminar on "High Performance Chiller Plant"

By: Mr Yow Kuan Yee

Date : 17th & 18th January 2020, Friday & Saturday

Time : 9.00am - 5.00pm

Venue: C&S & TUS Lecture Hall, 2nd Floor, Wisma IEM, PJ

**REGISTRATION FEES (SUBJECT TO 6% SST)** 

Grade	Online Fee	Normal Fee
IEM Student Member	RM 30.00	RM 50.00
IEM Graduate Member	RM 200.00	RM 300.00
Corporate Member	RM 400.00	RM 500.00
Non IEM Member	RM 550.00	RM 650.00

Closing Date: 14th January 2020

BEM Approved CPD/PDP Hours: 13 Ref. No: IEM19/HQ/592/C

#### **CANCELLATION POLICY**

IEM reserves the right to postpone, reschedule, allocate or cancel the course. Full refund less 30% if cancellation is received in writing more than 7 days before start date of the event. No cancellation will be accepted prior to the date of the event. However, replacement or substitute may be made at any time with prior notification and substitute will be charged according to membership stat

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#### **BIODATA OF SPEAKER**

Mr. K Y Yow, Director, HVAC Technical *Centre of Excellence*, HVAC & Transport, Asia Pacific & India, Ingersoll Rand

Yow is the Director of Trane HVAC Technical Center of Excellence, HVAC & Transport Business Unit, Ingersoll Rand, with responsibility to drive technical competency and system applications across the organization. A veteran in the industry, he has 38 years of experience in the air-conditioning field, that includes overseas

assignments in Malaysia and China. Prior to his current role, he has served as general sales manager of Trane Singapore and AP Regional System & Product Management leader. His vast experience covers product management, sales management and systems applications focusing on promotion of green and cost-effective HVAC solutions.

A member of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), he has served as Chairman of the Education Committee (Singapore Chapter). He is also a past president of the Air-conditioning & Refrigeration Association of Singapore.

Yow holds a Degree in Mechanical Engineering from National University of Singapore (1981), and MBA from The Nanyang Business School (NTU).

## Synopsis- High Performance Chiller Plant Seminar

Business around the world are being challenged to improve energy efficiency in support of climate protection commitments by countries to address the threat of Climate Change. According to the World Business Council for Sustainable Development, buildings worldwide account for 40% of global energy consumption. Of that amount, between 45% to 65% is utilized by HVAC systems that keeps building environment comfortable and healthy. The slightest inefficiency in the HVAC systems will create a huge energy drain and the financial impact is significant.

The market, including Trane, offers a broad portfolio of chiller types with proven technologies for efficiency, reliability and easy adaptation of system application strategies such as Variable Primary Flow ( VPF), Variable condenser Flow ( VCWF) and Chiller-Tower optimization( CTO) to deliver HP Chiller Plants. Understanding the dynamic interactions of the various components under varying conditions of load, Wet Bulb, Flow and temperatures are fundamental to system optimization.

The desire to save energy, while operating within budget, lies in the heart of many of our decisions. VPF designs uses fewer pumps and fewer piping connections than primary secondary systems, which means fewer electrical lines and a smaller plant footprint. These factors reduces the initial cost of the chilled water system while enhancing performance.

The speaker will highlight on the design approach related to a High Performance Chiller plant room design, Chiller Plant Controls incorporating investment-grade Measurement & Verification (M+V) instrumentations and as well as remote live viewing of some chiller plants to illustrate the salient points of optimization.

#### TENTATIVE PROGRAMME

8:30 AM	Registration	
9:00 AM	Welcoming Speech by Session Chairman	
9:15 AM	Speaker Introduction	
9.20 AM	ASHRAE Green Guide – Benchmark for HP Plant	
10:30 AM	Tea Break	
11:00 AM	Pumping Efficiency	
12:30 AM	Lunch Break	
1:30 PM	Heat Rejection Efficiency- Cooling Tower	
3:30 PM	Tea Break	
4:00 PM	Chiller Integrated Performance & Configuration	
5.00	Q & A Session	
5.30 PM	Adjourned	

Day 1 (18 <sup>th</sup> January 2020)	
8.30AM	Attendance Signing
9:00AM	Chiller Plant Controls
10:30AM	Tea Break
11:00AM	Variable Primary Flow Revisited
12:30NOON	LUNCH
1:30PM	Measurements & Verification
3.30PM	Tea Break
4:00PM	Live Demo (Q & A)
5:30PM	End of the Session