



IEM

The Institution of Engineers, Malaysia



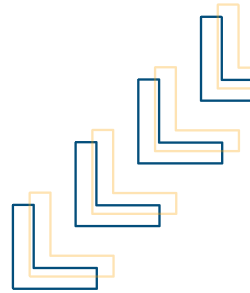
Organised by
Building Services Technical Division (BSTD)

VIRTUAL HALF DAY COURSE ON

“A Comparative Analysis in Navigating the Heat:

Choosing the Optimal Chilled Water Design for Tropical Environments”

Date : 17th August 2024 (Saturday)
Time : 9.00 am - 1.00 pm
CPD Hours : 4.0
CPD Ref No. : IEM24/HQ/225/C(w)



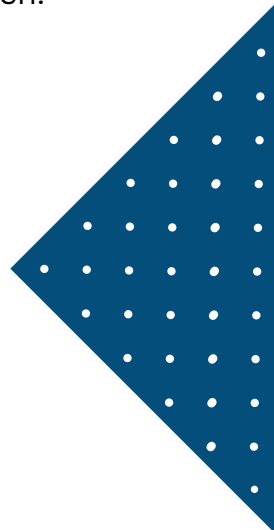
SYNOPSIS

In the sweltering embrace of a tropical climate, maintaining thermal comfort demands efficient and reliable chilled water plants. But with high and variable cooling loads, selecting the optimal design becomes a strategic undertaking. This presentation explores three dominant chilled water plant configurations – primary constant flow, primary-secondary flow, and variable primary flow with variable speed chillers – delving into their technical nuances, operational considerations, and suitability for tropical conditions.

Navigating the complexities of chilled water plant design for tropical climates requires a comprehensive understanding of each system's strengths and limitations. By carefully weighing factors like cooling demands, budget, operational complexity, and desired efficiency, engineers and building owners can confidently choose the optimal design to ensure thermal comfort and minimize energy consumption in their tropical haven.

REGISTRATION FEES (SST NOT INCLUDED)

Grade	Registration Online Rate (RM)	Normal Rate (RM)
IEM Student Member	RM 40.00	RM 50.00
IEM Graduate Member	RM 75.00	RM 90.00
IEM Corporate Member	RM 125.00	RM 150.00
Non IEM Member	RM 240.00	RM 300.00



SPEAKER: Ir. Haji Arul Hisham bin Abdul Rahim



Ir. Arul Hisham graduated from The University of Texas at El Paso, USA in 1987 with a bachelor degree in mechanical engineering. He is also registered Professional Engineer with the Board of Engineer since 1993 and a Fellow with the Institution of Engineers Malaysia. He holds qualifications as Registered Electrical Energy Manager (REEM) with Suruhanjaya Tenaga Malaysia and a Commissioning Specialist with Green Building Index (GBI). He is also a member of Association of Consulting Engineers Malaysia (ACEM), American Society of Heating, Refrigerating and Air-conditioning Engineers (ASHRAE) and International District Energy Association (IDEA).

Ir. Arul Hisham has over 30-years of experience in design, project supervision, energy audits, plant and building commissioning. He has also worked as project management consultant at various commercial office buildings and data center developments for multi-national companies in Cyberjaya.

His passion is on district cooling (DC) having consulted in many DC projects such as Cyberjaya, Kuala Lumpur Sentral, upgrading of Putrajaya's Plant 1, 2 and PICC, new Plant 4 and refurbishment of KLIA plant. He was also responsible in developing DC plants at UiTM Shah Alam, UiTM Puncak Alam and USIM, Nilai.

He specializes in thermal storage system (chilled water and ice) design, air conditioning systems design and energy efficiency. His works include formulation of chilled water tariff, techno-legal aspects and business modelling of energy business.

In the academia, having started his career as a lecturer at the University of Technology Malaysia in the late 80s and early 90s, he also served as industrial advisor at Faculty of Engineering, University Industry Selangor (Unisel), adjunct lecturer at Unisel, Malaysian French Institute (MFI, Bangi) in mid-2000s and has been regularly giving lectures to engineering students at various local universities.

Recently, he has audited indoor environmental qualities (IEQ) at hospital and airport particularly on the issue of condensation and humidity control vis-à-vis system's operation and control.

Ir. Arul Hisham is currently a senior partner at a MEP consultancy practice AHAR Consultants PLT and AHARC Lestari PLT; an energy service (ESCO) company.

PROGRAMME

Time	Description
09.00 am – 10.00 am	Introduction & Chilled water plant designs: A Comparative Analysis
10.00 am – 10.20 am	Break
10.20 am – 11.00 am	Primary constant flow system features and operation
11.00am – 12.10 pm	Primary-secondary flow system features and operation
12.10 pm – 12.45 pm	Variable Primary flow system features and operation
12.45 pm	Q & A Session and Discussion
13.00 pm	End of Course

