

Virtual Talk Via 'Zoom Platform' On
"Challenges In Design Of Multi-Stage Pumping Mains In A Highrise Building That Saves Energy"

Tuesday | 24th May 2022 | 3.00 p.m. – 5.00 p.m.

Organised by Building Services Technical Division (BSTD)

SYNOPSIS

SPAN Uniform Technical Guidelines (UTG) Water Reticulation and Plumbing was updated in April 2018 with a significant deletion of C3.5 Pumping System (d) where the height restriction of 70m was deleted. With the many highrise building erected in the country up to 88 storeys this is a challenging task for the design Engineers to design multiple stages of transfer of water where the BREAK tanks are located at designated floors and at different location within the same floor. Typical design would be 70% of the stored water is pumped to the roof top over a period of 10 hours in the night and theoretically depleted during the daytime.

In this design the gravity feed from such height creates excessive pressure and this is then removed with the use of Pressure Reducing Valve (PRV) along the downpipes to a pressure of up to 30m to the respective floors. There will be a significant energy saving if downpipes to the respective floors below can be tapped off from a BIGGER BREAK tanks since lesser energy for the water to reach the BREAK tanks. Such a concept can also effectively reduce the number of PRVs.

There were a number of tender documents where the use of Break tanks to provide the downpipe and the Contractor would only carry out the installation as per the drawings. In this respect Consultant must be sure of the design otherwise it will be a perpetual problem for the residents of the condominium.

The challenges listed in the above scenario has shortcomings and must be addressed in the design. Site installation experience will be shared by the Ir. Leong and whilst the design aspect will be shared by the Ir. Gary Lim

Ir. Leong Hon Wah received his Degree in Mechanical Engineering from Tri-State University (USA) in 1997, registered with BEM as a PEPC and a Committee Member of Building Services Technical Division of IEM. He worked as a contractor specialized in internal plumbing and sanitary systems. He is an Associate of Keemfat Sanitary & Plumbing Sdn Bhd a family business started by his late father. He had completed many types of project like residential houses, highrise apartments, shops, offices, hotel and shopping complexes.



SPEAKER 2



Ir. Gary Lim Eng Hwa received his Degree in Mechanical Engineering from University of Canterbury, New Zealand in 1978. He is a Fellow member of IEM and was the past Chairman of BSTD of IEM and currently he conducts design courses in the area of firefighting, internal plumbing and sanitary systems. He too conduct courses on Safety and Health topics which he had both the practical experience having spent over 20 years in the manufacturing industries before his retirement.

Registration Fees (effective)

IEM Members : RM 15.00 | IEM Non Members : RM 70.00

CPD Hours : 2.0 CPD Ref No : IEM22/HQ/127/T(w)

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