



TWO DAY COURSE ON “SANITARY SYSTEM, ODORLESS TOILET, RAINWATER HARVESTING CONCEPT & DESIGN”

SPEAKER ;

Ir. GARY LIM ENG HWA

Date : 05th & 06th December 2018 (Wed & Thu)
Venue : TUS Lecture Room
Wisma IEM, Petaling Jaya, Selangor
Time : 9.00 a.m. – 5.00 p.m.

BEM Approved CPD/PDP Hours: 13
Ref. No.: IEM18/HQ/480/C

****Closing Date: 02nd December 2018***

**** Limited to 35 participants only***

NO online registration will be allowed after the Closing Date

Organized & Hosted by:
Building Services Technical Division (BSTD), IEM

Cancellation Policy

No cancellation will be accepted prior to the date of the event. However, replacement or substitute may be made at any time with 7 days prior notification and substitute will be charged according to membership status.

Personal Data Protection Act

I have read and understood the IEM's Personal Data Protection Notice published on IEM's website at <http://www.myiem.org.my> and I agree to IEM's use and processing of my personal data as set out in the said notice.

SYNOPSIS

In a building there are many services, among them the LEAST glamorous is the SANITRY system. This is expected because the sanitary system channels all the soil and waste out of the building to the external manhole, an effective method to ensure foul smell does not enter the building. Also the contract value is probably the lowest too because it relies on the gradient and gravity force to move the soil and waste inside the plastic pipes. Now a probable FACT Architects, Engineers and Interior Designers would focus on the LAYOUT ONLY and most likely leaving the detailing aspects to the Plumbing Contractor. This dependency could be the likely reason why our toilets often faced blockages within a short duration AND are smelly. To mask the smell it is common to see odorizer inside the toilet, a chemical compound which is **carcinogenic** now is a norm and acceptable. It adds cost to the maintenance of the toilets. The concept of Indoor Air Quality goes out of the window. **An odorless toilet is possible if the concept of water seal is applied to ALL fittings and branch discharge pipes properly routed at the right gradient. Elbow must not be used without a drop of elevation!!!**

Rainwater Harvesting (RWH) concept has been promoted to conserve treated water and it will CERTAINLY be possible if the collected rainwater is used for WC flushing, each flush saves 6 liters of treated water. The RWH concept can be done with a VERY SIMPLIFIED gravity feed concept that has minimum fittings and does not required **the expensive "special" fittings**. This is probably why the implementation of RWH did not take off even after all these years. **It is possible to design and installed RWH system with minimum costs yet has the ability to have treated water as backup during the dry season AUTOMATICALLY and easily maintainable**

SPEAKER

Ir. GARY LIM ENG HWA
BE(Mech.) NZ, Mgt Dip. FIEM, P.Eng, Asean Eng.
AT31000 – Approved Trainer ISO31000

Ir Gary Lim is an experienced and qualified Professional Engineer with over 20 years of manufacturing experience in these areas; Industrial Engineering (Work Study), Project Management, Maintenance, Production and Factory Management. The 20 years of his work spanned over various industries namely industrial chemicals, dairy products, jam, sauces, chocolates, confectionnaires, industrial gases (liquid nitrogen, oxygen, argon, etc), blow moulding of plastic containers and paint manufacturing (highly fire hazardous). In the dairy industry involved in the design of Clean-In-Place (CIP) system of the process pipings.

Gary had conducted numerous risk management surveys of various industries from wafer plant to power plants. Currently, a council member and committee member of the Building Services Technical Division and member of the Fire Advisory Board of the Institution of Engineers, Malaysia. He has a degree in Mechanical Engineering from the University of Canterbury, New Zealand and a Management Diploma from New Zealand Institute of Management. He is a Professional Engineer registered with the Board of Engineers, Malaysia and a Fellow of the Institution of Engineers, Malaysia (IEM). He spoke in many public seminars both for the insurance industry, Malaysia Fire Protection Association and the Institution of Engineers, Malaysia.

Currently, he conducts courses regularly on the concepts and design in the area of Fire Engineering and Plumbing Engineering at all the IEM branches in Malaysia.
He is an active member in number of SIRIM Work Group in drawing up Malaysian Standards on plastic pipes.

PROGRAMME

TIME	DAY 1	DAY 2
8.45am	Registration	Registration
9.00am	MS1402 Code of Practice for Sanitary Systems MS2015 Public Toilet Part 1: Minimum Design Criteria MS1799 Urinals-Specification MS1522 Vitreous China Water Closet Pans Specification & BS5572	Case study 2 – Design the discharge pipes ROUTES to the stack and ceiling clearance Case study 2 – Determine the Branch discharge pipe size of the various sanitary fittings to the stack
10.15am	MS1402 – 4 types of discharge systems	Case study 3 – Branch discharge pipes ROUTES to the stack and gradient
10.45am	Tea Break	Tea Break
11.00am	Fittings selection with positive water seal reference to above MS	Case study 3 – Determine the Branch discharge pipe size of the various sanitary fittings to the stack
12.30pm	Lunch	Lunch
1.30pm	Installation of Sanitary Pipe. Areas of blockages of the pipes	Grease Traps and Pre-Treatment Plant for Food court in Shopping Mall update
2.45pm	Testing and Commissioning of Sanitary Systems	RWH system – simplified version Routing via a header to collection tanks
3.30pm	Tea Break	Tea Break
3.45pm	Case study 1 – Determine the Discharge stack size and vent pipe size	Gravity feed to WC cisterns Case study – Remote village project
5.00pm	End of Session	End of Session

*** IEM reserves the right to postpone, reschedule, allocate or cancel the course.**

For further details, kindly contact:

The Institution of Engineers, Malaysia
Bangunan Ingenieur, Lots 60/62, Jalan 52/4, P.O. Box 223 (Jalan Sultan),
46720 Petaling Jaya, Selangor

Tel : 603-7968 4001/2 **Fax :** 603-7957 7678 **Email :** shahrul@iem.org.my

REGISTRATION FORM

**TWO DAY COURSE ON
 "SANITARY SYSTEM, ODORLESS TOILET, RAINWATER HARVESTING CONCEPT & DESIGN"
 05TH – 06TH DECEMBER 2018**

REGISTRATION FEE

	<u>ONLINE FEE (RM)</u>	<u>NORMAL FEE (RM)</u>
IEM Student Members	RM 250.00	RM 280.00
IEM Graduate Members	RM 500.00	RM 600.00
IEM Corporate Members	RM 900.00	RM 1000.00
Non-IEM Members	RM 1200.00	RM 1300.00

No	Name(s)	Membership No.	Grade	Fee (RM)*
SUB TOTAL				
<i>Total Payable</i>				

PAYMENT DETAILS :

Cash RM _____

Cheque no. _____ for the amount of RM _____ (non refundable) and made payable to "THE INSTITUTION OF ENGINEERS, MALAYSIA" and crossed 'A/C Payee Only'.

FULL PAYMENT must be settled before commencement of the seminar, otherwise participants will not be allowed to enter the hall. If a place is reserved and the intended participant fails 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. The Registration Fee includes lecture notes, refreshment and lunch.

For **ONLINE REGISTRATIONS**, please note that payment **MUST** be made **BEFORE the closing date**. If payment is not received within the stipulated time, the registration fee will be reverted to the normal registration fee.

Contact Person : _____ Designation : _____

Name of Organization : _____

Address : _____

Telephone No. : _____ (O) Fax No : _____ (O)

Handphone : _____ (HP) Email: _____

Signature & Stamp _____

Date _____

Terms & Conditions:

- For ONLINE REGISTRATIONS, only ONLINE PAYMENT is applicable [via RHB and Maybank2u –Personal Saving & Personal Current ; Credit Card - Visa/Master.
- Payment via CASH / CHEQUE / BANK-IN TRANSMISSION / BANK DRAFT / MONEY ORDER / POSTAL ORDER / LO / WALK -IN will be considered as NORMAL REGISTRATION
- **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. Registration fee includes lecture notes, refreshment.
- The Organizing Committee reserves the right to cancel, alter, or change the program due to unforeseen circumstances. Every effort will be made to inform the registered participants of any changes. In view of the limited places available, intending participants are advised to send their registrations as early as possible so as to avoid disappointment.