



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

SPEAKER

Ir. GARY LIM ENG HWA

Date : 9th September 2026 (Wed)
Venue : TUS Lecture Room
Wisma IEM, Petaling Jaya, Selangor
Time : 9.00 a.m. – 5.00 p.m.

BEM Approved CPD: 6 Hours
Ref. No.: IEM26/HQ/341/C

****Closing Date: 2nd September 2026***

**** Limited to 30 participants only***

NO online registration will be allowed after the Closing Date

Organised 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 SANITARY 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 and design 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**. How many would agree with this claim? To mask the smell it is common to see odorizer inside the toilet, a chemical compound which is **carcinogenic**. High profile buildings like airport every toilet has a full-time staff station to carry out on the spot cleaning. **Is an odorless toilet possible OR maybe a smelly toilet already a norm? Designer must understand the concept of water seal to be 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) is already mandated in the UBBL 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. It is unlikely to find UNTREATED rainwater being used to flush WC instead merely for landscape only. If a survey to be conducted since the UBBL on this, there will be surprises, many are no longer in operations. The RWH concept can be done with a VERY SIMPLIFIED gravity feed concept that has minimum fittings and does not require **the expensive "special" fittings** and **yet has the ability to use 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,
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).

PROGRAMME

TIME	DAY 1
8.45am	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
10.15am	Determine the Discharge stack size and vent pipe size. Fittings selection with positive water seal
10.45am	Tea Break
11.00am	Determine the Branch discharge pipe size of the various sanitary fittings to the stack. Concept of floor trap and the difference between Top Access and Bottom Access floor trap, to be demonstrated and explained
12.30pm	Lunch
1.30pm	Installation of Sanitary Pipe. Areas of blockages of the pipes
2.45pm	RWH system – simplified version Routing via a header to collection tanks
3.30pm	Tea Break
3.45pm	Case study – To identify the SOURCE of smell in a typical toilet layout. Testing and Commissioning of Sanitary Systems
5.00pm	End of Session

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

For further details, kindly contact:

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REGISTRATION FORM

ONE DAY COURSE ON
"SANITARY SYSTEM, ODORLESS TOILET, RAINWATER HARVESTING CONCEPT & DESIGN"
9th September 2026
Email: suriani@iem.org.my

REGISTRATION FEE

	ONLINE FEE (RM)	NORMAL FEE (RM)
IEM Student Members	150.00	180.00
IEM Graduate Members	250.00	300.00
IEM Corporate Members	400.00	450.00
Non-IEM Members	800.00	900.00

No	Name(s)	Membership No.	Grade	Fee (RM)*
SUB TOTAL				
ADD 8% SST				
Total Payable				

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.