



The Institution of Engineers, Malaysia

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Talk on 'RELIABILITY ENGINEERING'

(Organised by Oil, Gas & Mining Technical Division, IEM)

Date : **4 May 2013 (Saturday)**
Time : **9.00 am – 11.00 am (Refreshment would be served at 8.00 am)**
Venue : **TUS Lecture Room, 2nd Floor, Wisma IEM, Petaling Jaya**
Speaker: **A. Rizal Mohamed**

BEM Approved
CPD Hours: 2
Ref No: IEM13/HQ/090/T

SYNOPSIS

What is reliability? From engineering perspective, reliability is defined as “probability that an item (i.e. component, equipment, system, etc.) can perform its intended functions for a given period of time under stated operating conditions.” Reliability engineering, thus, concerns the application of engineering principles in aspects of design, operation, and maintenance of an item to ensure that it can perform its functions as intended during its life cycle.

The study of reliability assists engineers to answer the question, “What is the probability that this particular Formula 1 can finish the 56 laps of the Sepang circuit at 188 km/h average speed?” or “What is the probability that this missile will hit its target if fired within certain range?” or “What is the probability that my brand new notebook PC will survive up to 48 months, if I were to use it for eight hours per day on average?”

This session introduces the audience to the history of reliability engineering, its application during the early days, and how it is applied today. It also covers some of the tools used by reliability engineers to study the life characteristics of equipment or systems. These include RAM(reliability availability-maintainability) modeling, life data analysis, Monte Carlo simulation, and Markov chain analysis.

Examples of applications in the oil and gas industry is also discussed.

BIODATA OF SPEAKER

At present, A. Rizal Mohamed is the reliability adviser to a Fortune 500 energy company, based in Kuala Lumpur. His responsibilities include providing advice to client organizations to improve equipment, system, and plant reliability and availability; developing reliability training modules and delivering the contents; coaching and assessing the capabilities of reliability engineers; performing root-cause analysis to understand why systems and equipment fail; and assessing the conditions of physical assets in process plants owned by the clients.

Rizal graduated in 1990 from Clarkson University, New York with a degree in Mechanical Engineering (distinction). He has more than 20 years experience in the field of maintenance and reliability, having served the electronics and the oil and gas industries.

His long-term interest is in organizational behavior, hoping to find the answers to the question, “What makes people did what they did (or otherwise)?”

Ir. Razmahwata Mohd Razalli

Chairman

Oil, Gas & Mining Technical Division, IEM

ANNOUNCEMENT TO NOTE

1. Talk is **STRICTLY** for IEM members only (pre-registration is **NOT** required).
2. Telephone and/or fax reservation will **NOT** be entertained.
3. Limited seats are available on a "first come first served" basis (maximum 110 participants).
4. IEM members are required to produce your **membership cards** for confirmation of attendance (CPD purpose).
5. Latecomers will not be allowed to enter if the lecture hall is full nor be entitled to CPD.

IEM members who fail to produce their membership cards will be charged a fee of RM20.00

FUNDS FOR IEM NEW BUILDING (WISMA IEM)

Kindly be informed that participants will be charged **RM10.00** administrative fee for talks organized by IEM. The fee will be used for overhead costs, building maintenance expenses as well as to support the purchase of Wisma IEM. However, students are exempted. Your understanding is much appreciated.

CPD HOURS CONFIRMATION

Name :

Membership No. :

Signature :