



THE INSTITUTION OF ENGINEERS, MALAYSIA

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TALK ON

“ARC FLASH & BLAST – THE OTHER ELECTRICAL HAZARD”

(Organised by Electrical Engineering Technical Division, IEM)

Date : 11 May 2013 (Saturday)
Time : 9.00 am to 11.00 am (Refreshment will be served at 8.30am)
Venue : Tan Sri Prof. Chin Fung Kee Auditorium, Wisma IEM, Petaling Jaya
Speaker : Ir. Lee Chong Kiow

BEM Approved
CPD/PDP HOURS: 2
Ref No: IEM13/HQ/062/T

SYNOPSIS

Traditionally, electric shock has been considered as the greatest hazard to electrical workers. In his classical 1985 paper, *The Other Electrical Hazard, Electrical Arc Blast Burns*, Ralph Lee woke up the electrical engineering fraternity to the often greater danger posed by an uncontrolled electric arc occurring close to electrical personnel. The dangers are two-fold – the release of thermal energy can cause horrific burns but the mechanical effects can also result in serious injuries to the various senses and vital organs.

In 2002, IEEE released a standard *Guide for Performing Arc-Flash Hazard Calculations*, to be used to determine what personal protective equipment (PPE) is necessary to protect electrical staff when they are exposed to the dangers of arc flash. The standard provides various formulas to first calculate the arcing fault currents from the bolted fault currents for voltages between 208 V and 15 kV. The arcing fault currents flowing through the protection devices are then used to calculate the fault clearance times and the levels of incident energy when a worker is within a certain working distance. The results of the analysis are the PPE to be used to limit any thermal injuries to the onset of second degree burns, the arc flash boundary within which the PPE must be worn and the arc flash warning labels.

The talk will focus on the scope of IEEE 1584 and a typical arc flash hazard analysis. It will also briefly demonstrate the use of Microsoft Excel and a commercial software for such an analysis.

BIODATA OF SPEAKER

Ir. Lee Chong Kiow is currently a director of VI Power, which specialises in providing technical training on electrical equipment and performing power system studies. He was previously the Engineering Manager of a company manufacturing indoor medium- and low-voltage switchgear. Prior to that, he spent more than five years as an Associate Director in a large consultancy practice and another 15 years working as a protection engineer in the former National Electricity Board. He is also a Suruhanjaya Tenaga competent/services engineer up to 275kV.

Over the last 16 years, he has trained more than 4,500 technical staff from the electrical and gas utilities, petro-chemical and other industries and multi-national companies throughout Malaysia and in Brunei, Oman, Singapore, Thailand Indonesia, Myanmar, Vietnam, China & India as well as Mauritius, Zimbabwe and Botswana on Power System Protection, Use of SKM Software for Power System Studies, Switchgear & Electrical Safety, Commissioning of Power Transformers, Harmonic Analysis, Arc Flash Analysis and Electrical Engineering for Non-Electrical Engineers. He has performed power systems studies for projects in several countries.

Ir. Lam Sing Yew
Chairman, Electrical Engineering Technical Division, IEM

Announcements 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 of Member: M'ship No:

Signature: Date :