



MEGA JATI ACADEMY SDN BHD

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A Short Course on Electrical Grounding, Lightning Protection and Surge Protection System

TRAINING ID: MJA/ELEC/2020/001

By

MEGA JATI ACADEMY SDN BHD

Jalan Marikh U5/174,

CB Seksyen U5,

40150 Shah Alam, Selangor

2020

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1.0 Introduction

Lightning issues become important as Malaysia location in equatorial is recorded the highest density and occurrence of lightning due to hot and humid tropical environment subsequently introduces high formation of cloud which finally led to thundercloud after evaporation of humidity from the air, land and sea surround it. The number of thunderstorm day which more than 300 days per year indicates the serious number of occurrence hence exposed a physical hazard for both human and equipment if not been handled and protect sufficiently.

Understanding the actual issues especially involving technical knowhow in Lightning Protection System is really important so that the action precisely can be taken to harness the real issues involving electrical safety not only conjecture with virtual statement without any evidence that sometime may confused and mislead the public from the actual facts, hence, contributed to the losses and damage to the human life and property.

This course is designed to give a better knowledge to chageman, technician or electrician that need a basic understanding on electrical grounding, LPS and SPD. This course is offered as a two-day condensed course, focused on the basics of subject matter, problems and solutions.

2.0 Course Objectives

Customer expectations for a reliable electrical grounding, LPS and SPD protection for both human and equipment, coupled with this are aging networks and the increased sensitivity of customer appliances. The need for technical staffs that understand in electrical grounding, LPS and SPD problems is important now. This course aims to provide the essential knowledge in electrical grounding, LPS and SPD protection for field based staff such as engineers, electrician, chageman and technician.

3.0 Language & Location:

The course material will be in English and Malay. Lectures will be held in the Client's Facilities.

4.0 Course Fee:

NO	TYPE OF PAYMENT	ACCOUNT NAME	BANK	ACCOUNT NUMBER
1	Cash, Cheque, Transfer	Mega Jati ACADEMY Sdn Bhd	Bank Islam Malaysia Berhad, Bandar Sri Damansara	1427-401000-7241
2	LO, HRDF	Mega Jati Consult Sdn Bhd	Maybank Banking Berhad, Taman Tun Dr Ismail, Kuala Lumpur	5142-7132-6182

For help and further information please contact

1) Account: Miss Ria : 012 349 8656

2) Training: Miss Zahafarina : 017 419 3031

5.0 Course Outline

TOPIC	COURSE OUTLINE	DURATION
	INTRODUCTION	
1	Tragedies Due To Lightning	DAY 1
2	The Effect Of Lightning Surge On The Power System Quality	
2.1	Damage To Main Electrical Panel	
2.2	Damage To Communication Module	
2.3	Damage To Sensitive Components	
2.4	Impact On Lightning Surge To System Equipments	
3	Lightning In Malaysia	
4	Lightning Risks	
5	Lightning Facts	
6	Theory Of Lightning Categories Of Lightning Effect	
6.1	What Is Transient Surges?	
6.2	Definition Of Surges	
6.3	Source Of Surges	
7	Lightning Protection System	DAY 2
7.1	Lightning Protection Assessment	
7.2	Lightning Protection Design	
8	Surge Protection System	
8.1	Notes On Surge Protective Devices (SPD)	
8.2	Rating On SPD	
8.3	Single Varistor And Multiple Varistor	
8.4	Let Through Voltage	
8.5	7 Module Vs 3+1 Module	
8.6	Monoblock Type Vs Modular Type	
9	MS IEC 62305 Selection And Application	
10	Q&A SESSION	

**Subject to final changes*

6.0 Course Speaker

	<p>Ir. Abd. Mokhti B. Salleh has a Master Degree in Lightning Protection System. He is currently a Chairman of Mega Jati Consult Sdn Bhd, the M&E Consultant. He has more than 30 years' experience in the field of Lightning and Surge Protection system. Ir Abd. Mokhti was appointed by JKR Electric Department, Malaysia as a Specialist Lightning and Surge Protection System for a period between May 2008 to April 2009. One of the scopes of works is to train the JKR Electric's engineers on the design of the Lightning and Surge Protection System. He has given many talks and seminar on Lightning and Surge Protection System. He was also appointed as Visiting Professor at Universiti Malaysia Perlis in 2015.</p>
	<p>Mohd Hilmi Bin Abd Mokhti (Grad BEM, Grad MBOT), holds a Bachelor of Engineering Technology (Hons) in Electrical from UNIKL British Malaysian Institute (BMI). His specializations are in lightning and surge protection and have provided training for both government agencies and private sectors. He is a Registered Graduate Engineers and Registered Technologist with the Board of Engineers Malaysia (BEM), Malaysia Board of Technologist (MBOT) and a Certified SEDA GCPV Competent Person. His current projects involve Gemas-JB Double Track with YTL and Lumut Electrical Infra works with SAPURA. He is also a shareholder and Director of Mega Jati Consult / Mega Jati Academy Sdn Bhd.</p>

**Subject to availability of speaker and final changes*

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