

1 DAY SEMINAR ON LIGHTNING PROTECTION BASED ON MS IEC 62305

BEM APPROVED CPD: 7
REF. NO.: IEM23/HQ/104/S

SPEAKER:

Mr Ritesh Lutchman

**18 MAY 2023, THURSDAY
9 AM - 5 PM**

VENUE :

FOUR POINTS BY SHERATON, PUCHONG

Registration Fees (Subject to 6 % SST):

IEM Student Member : RM 50.00

IEM Graduate Member : RM 100.00

EM Graduate Member : RM 150.00

IEM Non-Members: RM 220.00

SYNOPSIS

Design of Lightning Protection System based on the MS IEC 62305 standard.

Malaysia has adopted the MS IEC 62305 Part 1 to 4 Protection Against Lightning since 2006 replacing the previous BS 6651 which was withdrawn on the 31st Aug 2008

Should a Risk Analysis be done for every project?

Yes !!

Explanation of Risk Analysis based on MS IEC 62305 Part 2

Simplify risk analysis with Dehn risk analysis software demonstration

Level of external lightning protection based on risk analysis LPS I, II, III or IV

External Lightning Protection MS IEC 62305 Part 3

Three components of External Lightning Protection: Air Termination, Down Conductors and Earthing

Rolling Sphere Protection angle and mesh size according to LPS I, II, III or IV

Placement of Air Termination Rod based on Rolling Sphere

Definition and use of Separation Distance 'S'

Spacing between down conductors according to LPS I, II, III or IV

Use of Reinforcement bars as down conductors

Welded Joints v/s clamped Joints v/s Bound joints v/s latched joints

Types of Earthing; Type A or Type B

Equipotential Earthing

Save on costs of material and labour by knowing the materials and installation methods while still complying with MS IEC 62305 standard.

LPS Materials and conditions of use. Table 5 MS IEC 62305 Part 3

Material, configuration and minimum cross-sectional area of air-termination conductors, air termination rods, earth lead-in rods and down-conductors. Table 7 MS IEC 62305 Part 3

Material, configuration and minimum dimensions of earth electrodes. Table 7 MS IEC 62305 Part 3
Internal

Lighting Protection MS IEC 62305 Part 4

Should SPD (kA) discharge capability specification be 160 / 200kA - with "super low" let through voltage?

Does a SPD rated 200kA able to withstand a 200kA surge - 10/350us or 8/20us???

What International Standard is applied - IEEE (UL Std), BS Std, AS Std or the IEC Std?

What is the differences? Malaysia had adopted the IEC STD for Risk Analysis and SPD application
Correct application for Lightning Current Protection (10/350us) waveform and Surge (Transient) Current (8/20us) waveforms

Differences in energy level for 10/350us or 8/20us?

Terminology: per mode, per phase, per conductor, total surge, I_{max}, I_{imp}, I_n etc... Does the IEC Std recognize these terminologies?

Differences and Comparison in Class I (Type1), Class II (Type2) and Class III (Type3) for ALL types of SPD - Spark gap technology vs MOVs and Coordination - Video show "SHORT CIRCUIT CURRENT RATING" or Short-circuit withstand - I_{sc} of SPD

IEC Std Testing required SPD to withstand the Prospective Short Circuit Current at point of installation - the "short-circuit withstand" of SPD must be rated e.g. 50kA rms or 25kA rms with the coordinated fuses

Is the Fuses/MCCB recommended by supplier correct?? Refer to MS IEC 61643-12 Annex P
Informative guideline for the calculation and selection of backup fuses for different types of spd.

SPEAKER PROFILE

Mr Ritesh Lutchman is currently the Senior Sales and Marketing Manager at Wisepro Sdn Bhd. He has been working in the industry for the past 15 years and has gathered great experience in the design, installation, troubleshooting and site works for the industries mentioned above. He has also received extensive training on the Lightning Protection at Dehn headquarters in Germany, power factor capacitors, reactors and harmonics at Shizuki headquarters in Japan and ATS applications and troubleshooting at Vitzrotech headquarters in Korea. He graduated from the University of Cape Town with a Master's Degree in Electrical Engineering.

PROGRAMME

Time	Description	Signature
8.30 am - 9.00 am	Registration	
9.00 am - 10.30 am	Definition of lightning current and surge voltage Comparison of 10/350uS and 8/20us energy Definition of Lightning zones Equipotential bonding	Mr Ritesh Lutchman
10.30 am - 10.45 am	Tea Break	
10.45 am - 1.00 pm	Risk components and tolerable risks Bases risk calculation Addition of measures. Demo of risk analysis software	Mr Ritesh Lutchman
1.00 pm - 2.00 pm	Lunch	
2.00 pm - 3.00 pm	Definition of Lighting protection level I, II, III and V Rolling Sphere, Protective Angle, Meshing External lightning protection components: Air termination Down conductor Earthing Review of materials used for external lightning protection.	Mr Ritesh Lutchman
3.00 pm - 3.15 pm	Tea Break	
3.15 pm - 5.00 pm	Internal Lightning Protection: Selection of SPD Installation of SPD SPD for signal lines	Mr Ritesh Lutchman
5.00 pm - 5.30 pm	Question & Answer	