Protection Against Lightning: Stock Taking for a Better Future

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Damage inflicted on both living things and non-living things due to lightning has been widely reported in the press. Lives have been lost and, when properties are damaged by lightning, millions of ringgit are lost in the process.

Therefore, "appreciating the need for lightning protection and educating engineers about it, is the rightful role of IEM", said IEM president Dato' Lim Chow Hock, at the opening of a one-day symposium on protection against lightning held on 27 November 2014, at Grand Dorsett Subang Jaya.

To promote compliance of the relevant standards on protection against lightning, Datuk Ir. Ahmad Fauzi assured symposium participants that MS IEC 62305 will be enforced by the Energy Commission for the good of general public.

Two keynote papers were presented. The first was presented by Professor Liew Ah Choy who used multiple case studies with respect to current practices on lightning protection and limitations applicable to various types of structure. Dato' Jimmy Lim Lai Ho, who presented the second keynote paper, also relied on case studies with examples drawn from MRT underground stations in the areas of earthing and lightning protection. For an overview of the papers presented, please see the table below.

	Topics	Speakers
Keynote addresses	1. Lightning and Tall Structures—Some Problems and Solutions	Prof. Liew Ah Choy
	2. Application of MS IEC 62305: 2008, BS EN 50164 and IEEE STD 80 Earthing and Lightning Protection Standard for the MRT Project: Case study on MRT Underground Stations.	Dato' Jimmy Lim Lai Ho
Technical papers	1. Lightning Parameters for Engineering Applications	Prof. Mohd Zainal Abidin Ab Kadir
	2. Air Terminal Placement: The key to an Effective Lightning Protection of Structures	Mr. Hartono Zainal Abidin
	3. Protection Against Lightning for TNB Premises	Ir. Noradlina Abdullah
	4. Lightning Protection for Solar PV Farm	Mr. Wee Chek Aik
	5. Regulatory Framework, Development of Standards and Requirement for Protection Against Lightning	Ir. Hj. Abdul Rahim B. Ibrahim
	6. TC81: Development and Requirements of IEC Standards on Protection Against Lightning	Mr. Masaaki Sato
	7. Protection of Electrical and Electronic Equipment and Systems Against LEMP	Ir. Lim Kim Ten
	8. Design & Maintenance of Lightning Protection Systems	Mr. Thomas Yeo

A total of eight technical papers covering the design, regulatory framework and application of lightning protection systems were discussed.

In the first paper, Professor Mohd Zainal discussed the types of lightning discharges into the ground and ways to design the surge protection devices. In the second paper, Mr. Hartono Zainal Abidin explained the various types of lightning protection methods and the common errors in interpreting conventional air terminal placements.

On a more practical note, Ir. Noradlina Abdullah of TNB provided an overall view of the lightning detection system network in Malaysia among other things. The fourth paper was presented by Mr. Wee Chek Aik who touched on ways to overcome the disadvantages of air terminal network for solar PV farm.

The next speaker was Ir. Haji Abdul Rahim. He described the arduous journey in the adoption of MS IEC 62305 by the Energy Commission in 2011. An overview of the various lightning protection system related to IEC 62305 and IEC 62561 was given by Mr. Masaaki Sato.

Ir. Lim Kim Ten, a member of the organising committee of IEM Electrical Engineering Technical Committee, gave an account of a typical pathway that could damage equipment. As a fitting conclusion to the symposium, Mr. Thomas Yeo recounted the evolution of CP326 to MS IEC62305. He then went on to share his experience in maintenance, inspection and audit that complies with MS IEC 62305.

The symposium was a success as shown by the active participation in the question and answer session by those who attended. The chairman of IEM Electrical Engineering Technical Division Ir. Lam Sing Yew delivered the closing remarks at the end of the symposium. ■