FEATURE

STANDARDS DRIVE GLOBAL VALUE CHAINS – Joining Forces with Standards Malaysia and Suruhanjaya Tenaga

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Standards have been driving global value chains. However, not many people are aware of how it is happening.This was why the IEM Electrical Engineering Technical Division, Standards Malaysia and Suruhanjaya Tenaga (Energy Commission of Malaysia) jointly organised the biennial ASEAN Electrotechnical Symposium & Exhibition 2018 on 4-5 December, 2018, at Connexion Conference & Event Centre in Kuala Lumpur.

More than 600 engineering professionals, government officials and policy makers, standards organisations, manufacturers, suppliers and solution providers as well as owners and operators from both domestic and ASEAN countries participated in the keynote session on the following themes: Standards Drive Global Value Chains, Generation,Transmission & Distribution, Electrical Installation in Buildings and Electrical Equipment & Appliances.

Participants gained valuable insights from the experts on the latest electrotechnical standards, technology products and services and understandings on the engineering challenges and opportunities in the ASEAN region.

After Ir. David Lai Kong Phooi, President of The Institution of Engineers, Malaysia (IEM), welcomed the guests, Y.Bhg. Datuk Fadilah Baharin, Director General of Standards Malaysia, gave her opening speech. The event was then launched by Datuk Fadilah, Mr. James M. Shannon, President of the International Electrotechnical Commission (IEC), Y.Bhg. Datuk Ir. Ahmad Fauzi bin Hasan, Chairman of Energy Commission of Malaysia, Encik Abdul Razib bin Dawood, Chief Operating Officer of Energy Commission of Malaysia, Ir. David Lai Kong Phooi and Y.Bhg. Prof. Emeritus Datuk Dr. Marimuthu Nadason, Chairman of Malaysia Standards and Accreditation Council.

After a break, Mr. James Shannon delivered his keynotes on the role of Standards in Global Value Chains. He gave an overview of the work of the IEC which was initially intended to help bring electricity safely to people worldwide. IEC then followed by developing standards for various electrical and electronic equipment. Standards are vital to ensure performance and safety when operating equipment. Without standards, it would have been impossible to have the technology of today.

He also shared his ideas on the importance of "connect, exchange and impact" among stakeholders. It is through standards that we are able to advance technology and, at

The audience

the same time, improve safety and reliability of equipment. Using standards has also allowed companies to sell products internationally. He applauded Malaysia for its participation in standardisation activities; the involvement of its IEC Young Professionals in particular, will put Malaysia in a good position in future.

Then Encik Shaharul, Director (Standardisation) of Standards Malaysia, delivered a keynote address on Malaysia Engagement in Standards & Value Chain. He said ASEAN was one of the most dynamic regions in the world as the economy was growing rapidly. In accordance with the ASEAN Economic Blueprint 2025, we are to drive the global value chain more intensely. As the sole national standards body in the country, Standard Malaysia will support IEM in its initiative to harmonise standards among ASEAN countries.

Next, Encik Abdul Razib bin Dawood talked about Roadmap for a Sustainable Energy Supply Chain. The Energy Commission, based on the Integrated Generation & Transmission Plan, has targeted for more Renewable Energy (RE) in the system. This is in tandem with the government's aim to have 20% RE out of the total energy capacity by 2025. With that, we have to tackle the Energy Trilemma, three competing challenges of the energy market, namely energy security, energy equity and environmental sustainability.

For the next theme, Generation, Transmission & Distribution, the first speaker was Ir. Loo Kok Seng. His focus was on Generation, Future Alternatives & Future Grid. He started with ways to reduce greenhouse gases which included decarbonisation. In the Renewable Energy Act 2011, the target is to have 20% renewable energy in the capacity mix by 2025. TNB has also invested in Grid of the Future technologies which will help improve grid reliability and efficiency.

The next keynote speech was on ASEAN Energy Sector Developments Towards a Clean, Sustainable & Prosperous Future, delivered by Dr Sanjayan Velautham, Executive Director of ASEAN Centre for Energy (ACE). ASEAN recently endorsed the ASEAN Economic Community (AEC) which rested on four pillars. There are single market and production base, competitive economic region, equitable economic development and fully integrated region in the global economy. ACE is an intergovernmental organisation representing the interests of the 10 ASEAN Member States in the energy sector. Further, an Enhanced ACE, a recently endorsed business plan, has vital roles to become the ASEAN think-tank, to become a catalyst to unify and strengthen ASEAN energy cooperation and to become the ASEAN energy data centre and knowledge hub.

The keynote presentation continued with Encik Zaharin Zulkifli from Energy Commission of Malaysia with Distributed Energy System. His report was on his research on distributed energy system. Encik Muhamad Zulkifli Meah from Tenaga Nasional Berhad (TNB) then gave an overview of the possibility of cross-border energy transmission and the general analysis on the technical requirement for that to occur, in his talk on Connecting ASEAN Through the Power Grid (Laos-Thailand-Malaysia).

The event continued with keynote addresses on RE and Energy Efficiency Developments in Myanmar – Challenges & Opportunities, presented by Mr. Khin Maung Win from Myanmar Engineering Society (MES). The talk focused on the energy issue in Myanmar and how it tackled the challenges.

Then Dr Florigo C. Varona of The Philippines Technological Council (PTC) talked about Power Quality & Distribution Reliability Initiatives in Philippines. The energy concerns in The Philippines include quality, reliability, affordability and security. He also discussed laws, statues and codes in The Philippines related to energy. The first day ended with the final keynote address delivered by Er. Lim Say Leong from The Institution of Engineers, Singapore (IES) on Standards to Advance Energy Efficiency Implementation. He illuminated on the ideas of smart homes and smart cities and highlighted the importance of energy efficiencies and the

Launching of the ASEAN Electrotechnical Symposium & Exhibition 2018

The ASEAN Engineering Inspectorate-Electrical Installation Committee with ASEAN delegates

differences from energy conversation. He also discussed Energy Conservation Act, a Singaporean initiative.

The second day started with Ir. Prof. Dr Jeffrey Chiang Choong Luin, Secretary-General of ASEAN Federation of Engineering Organisations (AFEO) who delivered the white paper launching speech. White paper is an initiative by the ASEAN Engineering Inspectorate-Electrical Installation (AEI-EI) formed under AFEO. It is a comprehensive study comprising the understanding of the differences in ASEAN and the survey reports for consideration. This master plan was developed by considering inputs by various organisations, including ASEAN, AFEEC, IEC, APEC and others. This white paper will benefit the consulting engineer, contractor, product engineer, electrical engineer, educational personnel and other relevant practitioner.

Then Ir. Prof. Dr Jeffrey Chiang Choong Luin and Ir. Prof. Dr Norlida Buniyamin, AER Head Commissioner of AFEO launched the white paper for Electrical Installation Standards & Regulations in Buildings Amongst ASEAN Countries.

The symposium continued with keynote presentations on Electrical Installation in Buildings. Ir. Lim Kim Ten from IEM started with Enhancing Compliance to MS IEC 60364 Series and Future IEC Standards. He gave a brief explanation on various standards, namely IEC, ISO, ITU and BS and explained about the Electricity Supply Acts and Electricity Ordinance in Malaysia. He also presented the standards development cycle. Each standard will go through the process of establishment, standard development, awareness, monitoring and improvement. He stressed that compliance to MS 1979 and MS1936 was mandatory in Malaysia. Apart from this, there are other guidelines available for reference such as for design, installation, inspection, testing, operation and maintenance of water heater systems, non-domestic electrical installation safety code and guidelines on electrical safety management plan and programme.

The next topic on National Electrical Installation Requirements of Indonesia: PUIL 2011 was presented by Ir. Dr Arwindra Rizqiawan, Persatuan Insinyur Indonesia (PII). He said Indonesia had established the code in electrical installation in 1964. From 1987, the code was recognised as standards which regulate design and installation, especially in the low voltage level and building application. It has become the reference for issuing the certificate of operation.

Following this was Ir. Chin Lee Tuck from Pertubuhan Ukur Jurutera & Arkitek (PUJA) who spoke on BS 7671: Requirements for Electrical Installations in Brunei. He mentioned the standards currently practised in Brunei, namely Requirements for Electrical Installations (BS 7677), IET Wiring Regulations (PBD 12: 2017), and Building Guidelines & Requirements, Electrical Installation Requirements 2011. He also highlighted the classification of contractor and licensed electrical workers. Foreign engineers who meet the BAPEQS requirement can register as engineers in Brunei.

Lao Electrical Power Technical Standards was presented by Mr. Viengsay Chantha and Mr. Sychath Boutsakitirath from the Department of Energy Management, Ministry of Energy & Mines, Lao People's Democratic Republic. He talked about the Lao Electrical Power Technical Standards, the electrification rate in Laos and discussed international standards and practices that had been undertaken. He highlighted the need to add details to existing documents to address the challenges of increased hydropower development activities in Laos. H.E. LY Sovannarith, Board of Engineers Cambodia (BEC) then gave a brief overview of the Electric Power Technical Standards of The Kingdom of Cambodia which covers all power facilities, house wiring and electrical appliances except airplane equipment. Cambodia plans to realise national code using IEC standards and achieve 20% growth in the power sector.

The final theme of the day was Electrical Equipment & Appliances. Ir. Rocky Wong Hon Thang of IEM started with

ASEAN Economic Integration & Trade Facilitation in Standards and Conformance. He gave a brief overview and mentioned that the initial purpose of the association was peace. The next presentation, from Encik M. Zamri bin Mustaffa from SIRIM QAS International Sdn. Bhd., was on Safety of Electrical Appliances/Equipment and Application of Safety Standards. He explained the definition of safe product and highlighted some safety testing methodologies. He advised that all appliances used must have approval from the regulatory body, comply with safety standard requirements, be verified by an accredited laboratory and be properly installed by a competent person. Then Prof. Dr Tran Dinh Long from Vietnam Union of Science and Technology Associations (VUSTA) spoke on Standards Works in VN and National Regulation on Electrical Installations of Dwelling & Public Buildings. He clarified the hierarchy of legal documents available in Vietnamese and said it priorities laws, followed by decrees, circulars and standards. The important laws available in Vietnam include Electricity Law 2004 and Law on Energy Efficiency & Conservation.

After a break, the keynote address on ASEAN Economic Integration for 4th Industrial Revolution (4IR) was presented by Puan Hazami Habib, Chief Executive Officer of Academy of Sciences Malaysia. She spoke on the global outlook of the top five mega trends and global risks. She highlighted the various strategies employed in various countries to tackle the challenges and the importance for the transformation from traditional to new economy. She ended by proposing some ideas for ASEAN to move forward. The presentation continued with Mr. Prasitt Hemwarapornchai, The Engineering Institute of Thailand, on Data Centre and Energy Efficiency Developments and Standards in Thailand – Challenges & Opportunities. He described the definition of a data centre and highlighted the importance of its availability, reliability, quality and performance. In addition, the site location and space planning were also important.

The last address was from Dr Sanjayan Velautham, on ASEAN Regional Policy Roadmap for Minimum Energy Performance Standards (MEPS). He presented on energy efficiency and conservation programme for 2016-2020. He said the AEC goal can be achieved by having technical standards harmonisation and mutual recognition for energy efficiency.

The symposium has raised the awareness level of professionals from various backgrounds and countries on how standards drive value chains. With initiatives such as by the AEI-EI, it is just a matter of time before standards can truly drive the ASEAN value chain. ■

Authors' Biodata

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