

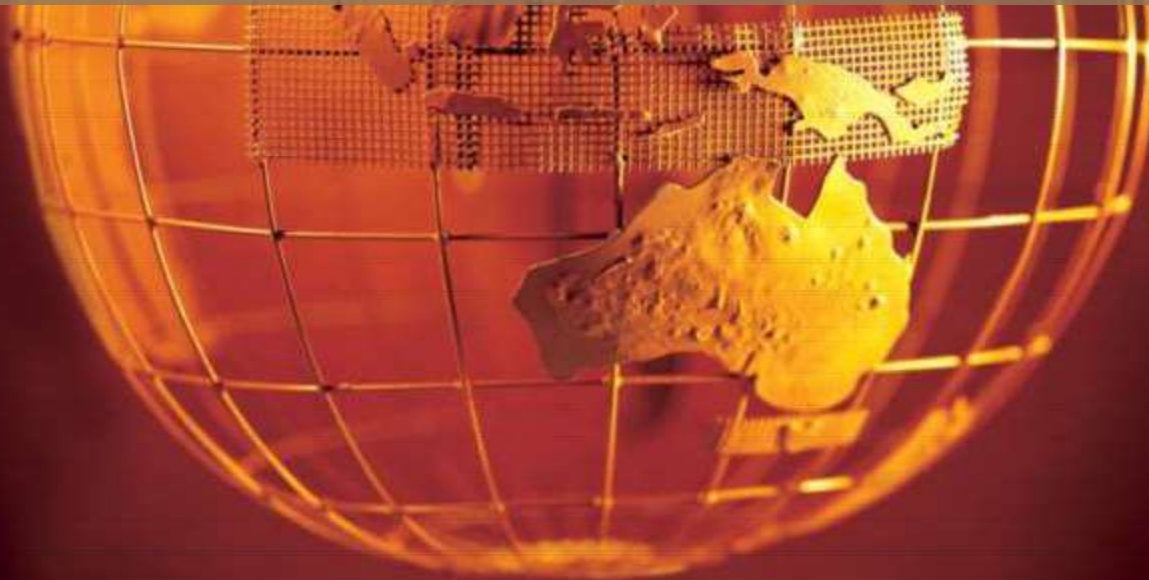


International Copper
Association Southeast
Copper Alliance Asia



Feasibility Studies – White Paper For Electrical Installation Standards & Regulations In Buildings Amongst ASEAN Countries

- Presentation to CAFEO 35



AEI – Electrical Objectives



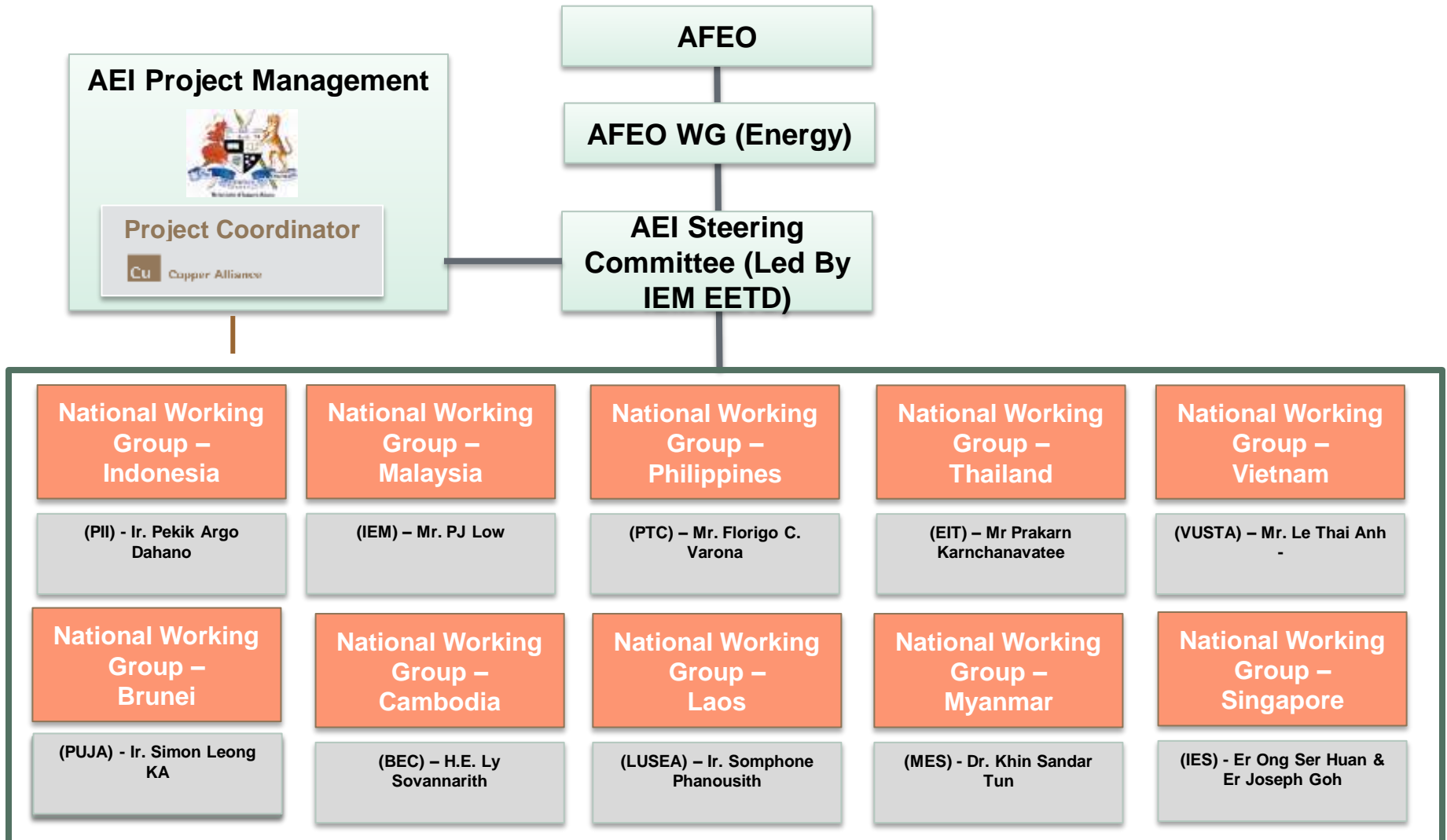
Immediate

- To review, study and identify the possible differences in the various ASEAN Countries Electrical Installation Standards & Regulations and Application
- To update the ASEAN Engineering Inspectorate (AEI) Electrical Installation Guidelines based on inputs from the survey.
- Facilitate Mobility of Engineers with the knowledge sharing of each country regulation and Standards & Regulations.

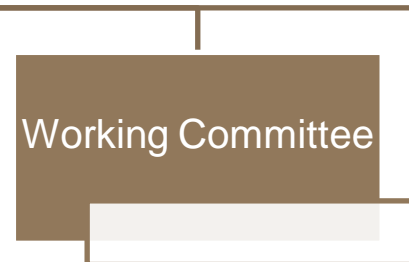
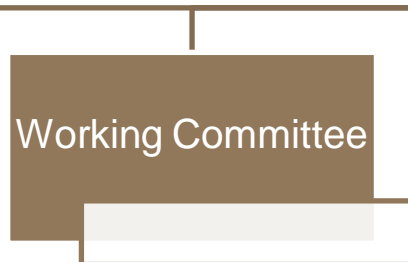
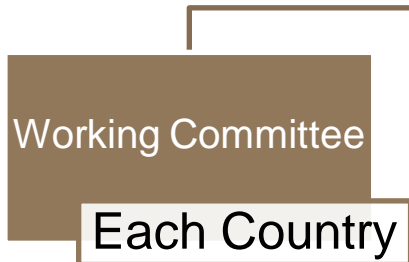
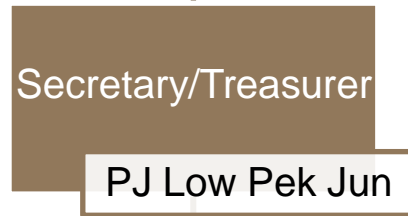
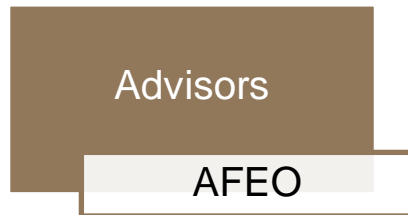
Long Term

- To provide awareness programme for electrical engineers and contractors amongst ASEAN engineers.
- To work in line with the ASEAN initiatives of ASEAN Connectivity Blueprint 2025 and to initiate a MRA for Electrical Installation Works amongst ASEAN Countries
- To work towards the harmonisation of ASEAN Electrical Installation Standards & Regulations

AEI Proposed Structure



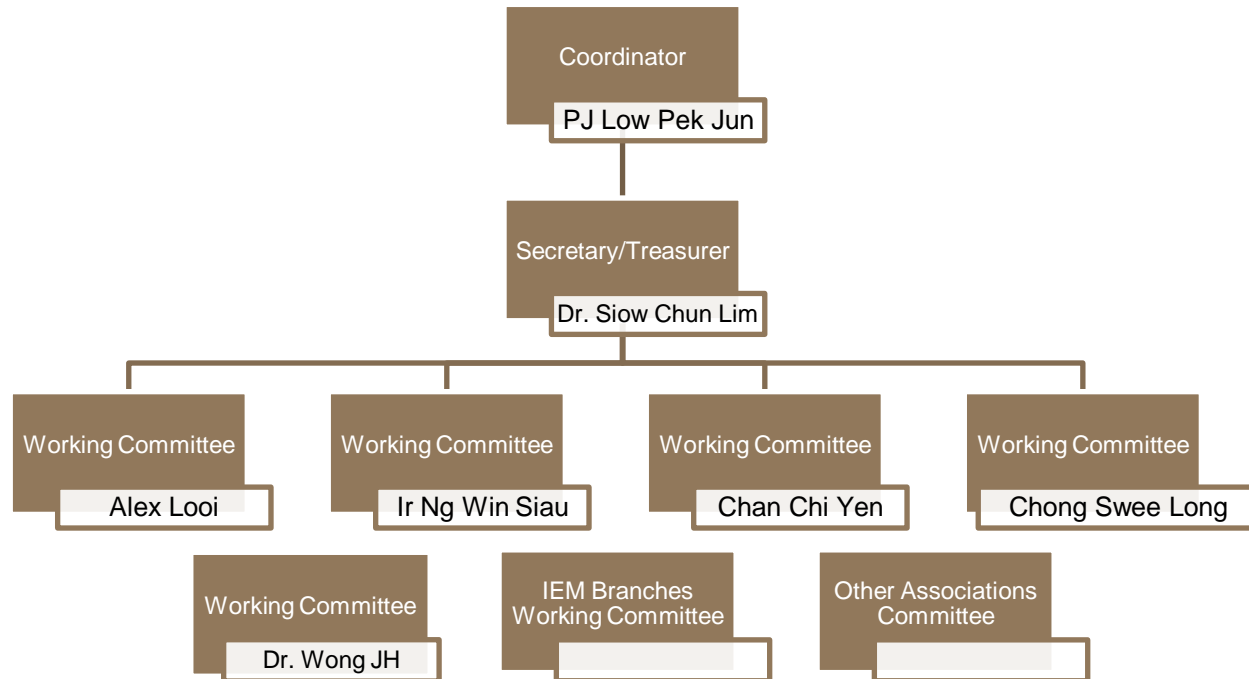
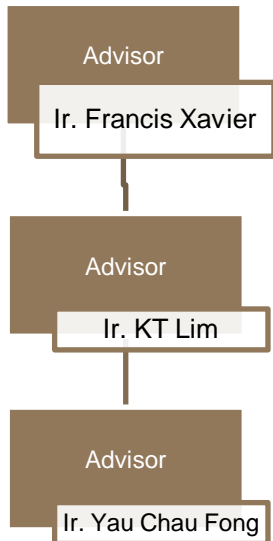
AEI Steering Committee (Led by IEM EETD)



National Working Group Committee (Malaysia IEM EETD)



ADVISORY BOARD





Roles & Responsibilities

1. IEM:

- Secretariat and Chair for AEI Steering Committee.
- Provide progress update and reports to AFEO WG Energy & AFEO Board of Committee

2. ICA:

- Project Coordinator for implementation of AEI activities

3. AEI Steering Committees:

- Provide advisory and oversights on AEI implementation framework;
- Review project plans;
- Review project documentations, reports.

4. National Working Group:

- Provide resources for AEI implementation

AEI Work Plan (Immediate)



1. Adoption of AEI at ASEAN Member States

- Feasibility study on adoption of AEI guidelines (by end of 2017)
 - Survey on electrical inspection systems in ASEAN (ongoing)
 - Comparison of AEI guide with existing country inspection systems & Identifying the differences
- Formation of country AEI Work Group In Each Country (by end of 2017)
- Organized dissemination workshops (2017 - 2018)
 - Introduce AEI guide
 - Discussion of Localization of AEI guidelines
- ASEAN version of AEI Guidelines; Version 2.0 (by end of 2018)

AEI Work Plan (Immediate)



Progress of feasibility studies:



*January 2017:
Courtesy Visit To Malaysia's Energy
Commission*



*March 2017:
Courtesy Visit To Engineering
Institute of Thailand (EIT)*

AEI Work Plan (Immediate)



Progress of feasibility studies:



*March 2017:
Courtesy Visit To Singapore;*

AEI Work Plan (Immediate)



Progress of feasibility studies:



*April 2017:
Courtesy Visit To Jakarta;*

AEI Work Plan (Immediate)



Progress of feasibility studies:



*May 2017:
Courtesy Visit To Hanoi, Vietnam;*

AEI Work Plan (Immediate)



Progress of feasibility studies:



*May 2017:
Courtesy Visit To Manila;*

AEI Work Plan (Immediate)



Progress of feasibility studies:



*July 2017:
AFEO Mid Term Report @ Singapore*

AEI Work Plan (Immediate)



Progress of feasibility studies:



*Aug 2017:
Sarawak, Malaysia*

AEI Work Plan (Immediate)



Progress of feasibility studies:

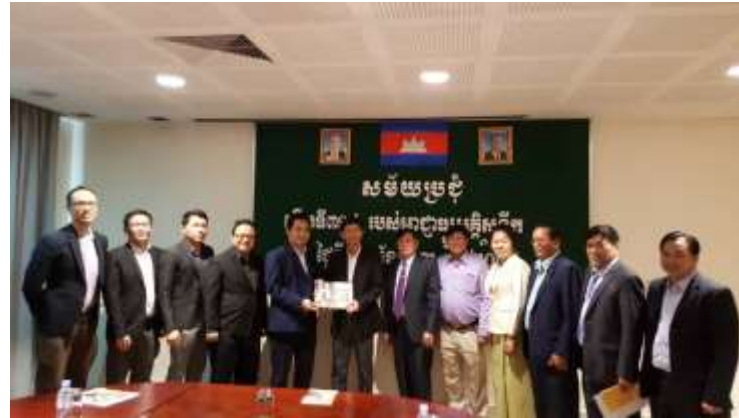


*Aug 2017:
Myanmar*

AEI Work Plan (Immediate)



Progress of feasibility studies:



*Aug 2017:
Cambodia*

AEI Work Plan (Immediate)



Progress of feasibility studies:



*Sept 2017:
Brunei*

AEI Work Plan (Immediate)



Progress of feasibility studies:



Sept 2017:
Laos

Outline of Studies Report



AFEO Energy WG: AEI For Electrical Installation In Buildings Feasibility Studies – White Paper For Electrical Installation Standards In Buildings Amongst ASEAN Countries

Report Outline

1 Chapter 1

ASEAN Electrical Installation Standards Executive Summary

- 1.1 Objectives
- 1.2 Studies Methodology
- 1.3 Key finding & Recommendations
- 1.4 Reference Standards
- 1.5 Findings and Summary Table Of Studies



Outline of Studies Report



AFEO Energy WG: AEI For Electrical Installation In Buildings Feasibility Studies – White Paper For Electrical Installation Standards In Buildings Amongst ASEAN Countries

2 Chapter 2

Development and Recent ASEAN Initiatives

- 2.1 Development of ASEAN standards and roles of ASEAN
- 2.2 Global Landscape of Standard Development
- 2.3 ASEAN Electrical Standards Development – Role of ASEAN
- 2.4 ASEAN Electrical Installation Situation
- 2.5 Strength and Weaknesses of Electrical Installation In the ASEAN Region
- 2.6 The Electrical Installation Standards Cooperation

3 Chapter 3

Detailed Studies and Outlook of Each ASEAN Country

- 3.1 BRUNEI
- 3.2 CAMBODIA
- 3.3 INDONESIA
- 3.4 LAOS
- 3.5 MALAYSIA

Outline of Studies Report



AFEO Energy WG: AEI For Electrical Installation In Buildings Feasibility Studies – White Paper For Electrical Installation Standards In Buildings Amongst ASEAN Countries

Report Outline

Detailed Studies and Outlook of Each ASEAN Country

- 3.6 MYANMAR
- 3.7 PHILIPPINES
- 3.8 SINGAPORE
- 3.9 THAILAND
- 3.10 VIETNAM

4 Chapter 4

Indicators & Way Forward

- 4.1 Electrical Installation differences
- 4.2 Potential
- 4.3 Proposed Activities

5 Chapter 5

References & Bibliography

Low Voltage Electrical System Standards Amongst ASEAN COUNTRIES



Description	Malaysia	Malaysia (Sarawak)	Brunei	Laos	Myanmar	Cambodia	Singapore	Thailand	Indonesia	Vietnam	Philippines
Electricity Regulations & Electrical Safety Regulations Authority	Energy Commission (EC)	Electrical Inspectorate Unit (EIU), Ministry of Public Utilities Sarawak	Department of Electricity Services (Till 2018)	The Ministry of Energy and Mines	Electrical Inspection Department, Directorate of Supervision and Inspection, Ministry of Industry	Ministry of Mines & Energy	Energy Marketing Authority (EMA)	Energy Regulatory Committee (ERC)	Direktorat Jenderal Ketenagalistrikan (DGE)	Ministry of Industry and Commerce, Ministry of Science and Technology, Ministry of Construction and other relevant ministries.	Board of Electrical Engineering (BEE)
Standards Writing Authority	Department of Standards Malaysia (DSM)	Refer to Department of Standards Malaysia (DSM)	Department of Electricity Services	The Ministry of Energy and Mines	Technical Committee of Electrical & Electronic, Ministry of Education	Ministry of Mines & Energy For Electrical Installation Works	Spring Singapore (Standards, Productivity and Innovation Board)	Engineering Institute of Thailand (EIT) – for engineering standards	Standards Nasional Indonesia (SNI)	Directorate for Standards, Metrology and Quality (STAMEQ)	Institute of Electrical Engineers (IIEE) Philippines
Registration of Electrical Products	Energy Commission (EC)	Electrical Inspectorate Unit (EIU), Ministry of Public Utilities Sarawak	Authority For Building Construction Industry (ABCi) – Consumer Product	The Ministry of Energy and Mines	Electrical Inspection Department, Directorate of Supervision and Inspection, Ministry of Industry	Not Available	Spring Singapore (Standards, Productivity and Innovation Board)	Thai Industrial Standards Institute (TISI)	Lembaga Sertifikasi Produk	Ministry of Science and Technology (MOST)	Bureau of Products Standards (BPS)
National standards on Electrical Installation and Electrical Safety	MS1979, MS1936 & MS IEC 60364	Refer to Malaysian Standards & International Standards	Electricity Installation Regulation 2011	Lao Electric Power Technical Standards	Electricity Law 2014, National Building Code 2016	The Electricity Law - promulgated by the Royal Decree no.NS/RKM/0201/03, dated February 02, 2001	CP 5 & CP 88	Thai Electricity Code 2013	Electrical Installation Regulation: PENSARATAN Umum Instalasi Listrik (PUIL) 2011	National Technical Regulation on Electrical Installations of Dwelling and Public Building & National technical regulation on Electric safety	National Electrical Code (NEC)
General Reference Standards	IEC	IEC/BS	IEC	IEC	IEC	IEC	IEC/BS	IEC	IEC	IEC	Mixture

Summary



-
- Immediate:
 - Review and identify the differences of electrical inspection Standards & Regulations and practices in ASEAN via AEI Guidelines
 - **Finalised Feasibility Study by CAFEO 2017 – Bangkok**
 - **Appointment of WG Chair/Committees In Each Country By CAFEO 2017**
 - **Insertion into Bangkok Declaration**
 - Mid-term:
 - Adoption of AEI guidelines in ASEAN member states & Facilitation of Mobility of electrical engineers In ASEAN.
 - Long-term:
 - Harmonization of Standards & Regulations for electrical installations in buildings
 - Training and certification of electrical engineers and contractors per AER guidelines

Summary



AEI – ELECTRICAL BLUEPRINT (2018-2035)

16th November 2017

Bangkok

Presented By: AEI - Electrical Steering
Committee

Stay Tune...16/11/17 10.30am @ Boardroom 5

Thank you

