

**FORMATION OF ELECTRICAL INSTALLATION
GUIDELINES
TECHNICAL SUB-COMMITTEE
(EI-TSC)**

AEI Electrical Installation Guidelines

Assignment of Subcommittee Team For 10 Key Strategic Elements Of Electrical Installation Guidelines

- EI-1: Terms and definitions
- EI-2: Protection against electric shock
- EI-3: Current carrying capacity of conductors and related overcurrent protection
- EI-4: External influences
- EI-5: Selection and erection of electrical equipment
- EI-6: Verification of electrical installations
- EI-7: Special Location Installation
- EI-8: Energy Efficiency
- EI-9: Prosumer Low Voltage Electrical Installation
- EI-10: Evolutions of Electrical Installation

(Reference: IEC TC64 Maintenance Team)

AEI Electrical Installation Guidelines

Assignment of Subcommittee Team For 10 Key Strategic Elements Of Electrical Installation Guidelines

- EI-1 - Terms and definitions (Reference to IEC60364-1)
 - Proposed TOR
 - Gives the rules for the design, erection, and verification of electrical installations. The rules are intended to provide for the safety of persons, livestock and property against dangers and damage which may arise in the reasonable use of electrical installations and to provide for the proper functioning of those installations.
 - Reference
 - IEC 60364-1: Fundamental principles, assessment of general characteristics, definitions

AEI Electrical Installation Guidelines

Assignment of Subcommittee Team For 10 Key Strategic Elements Of Electrical Installation Guidelines

- EI-2 – Protection against electric shock (Reference to IEC60364-6)
 - Proposed TOR
 - To make recommendations to AEI-EI essential requirements regarding protection against electric shock of persons and livestock.
 - Reference
 - IEC 60364-41: Low voltage electrical installations - Part 4-41: Protection for safety - Protection against electric shock

AEI Electrical Installation Guidelines

Assignment of Subcommittee Team For 10 Key Strategic Elements Of Electrical Installation Guidelines

- EI-3 - Current carrying capacity of conductors and related overcurrent protection (Reference to IEC60364-42, IEC60364-43, IEC60364-5-52)
 - Proposed TOR
 - To make recommendations to AEI-EI on the current-carrying capacity and related overcurrent protection of conductors and to develop requirements for the selection and installation of conductors and overcurrent protective devices in installations
 - Reference:
 - Low-voltage electrical installations - Part 4-42: Protection for safety - Protection against thermal effects
 - Low-voltage electrical installations - Part 4-43: Protection for safety - Protection against overcurrent
 - IEC 60364-5-52 Low voltage electrical installations, Part 5 -52: Selection and erection of electrical equipment – Wiring systems.
 - *(Reference: IEC TC64 Maintenance Team)*

AEI Electrical Installation Guidelines

Assignment of Subcommittee Team For 10 Key Strategic Elements Of Electrical Installation Guidelines

- EI-4 – External Influence (Reference to IEC60364-44/5-51/5-53/5-54/5-55)
 - Proposed TOR
 - To make recommendations to AEI-EI with protection against external influences as far as they may impair the electrical installations. Such influences are for example:
 - ambient temperature,
 - ambient climatic conditions,
 - presence of water,
 - electromagnetic, electrostatic of ionizing influences,
 - lightning
 - overvoltages
 - interference between different electrical Reference:
 - IEC 60364-4-44 (excluding Clause 442): Protection for safety - Protection against voltage disturbances and electromagnetic disturbances
 - IEC 60364-5-51: External influences
 - IEC 60364-5-53 (Clause 534): Devices for protection against overvoltage
 - IEC 60364-5-54: Earthing arrangements, protective conductors and protective bonding conductors
 - IEC 60364-5-55 (Clause 557): Auxiliary circuits

AEI Electrical Installation Guidelines

Assignment of Subcommittee Team For 10 Key Strategic Elements Of Electrical Installation Guidelines

- EI-5 – Selection and erection of electrical equipment (Reference to IEC60364-5-51/52/53/54/55/56)
 - Proposed TOR
 - To make recommendations to AEI-EI with the selection of equipment and its erection. It provides common rules for compliance with measures of protection for safety, requirements for proper functioning for intended use of the installation, and requirements appropriate to the external influences foreseen.
 - Reference
 - Electrical installations of buildings - Part 5-51: Selection and erection of electrical equipment - Common rules
 - Low-voltage electrical installations - Part 5-52: Selection and erection of electrical equipment - Wiring systems
 - Electrical installations of buildings - Part 5-53: Selection and erection of electrical equipment - Isolation, switching and control
 - Low-voltage electrical installations - Part 5-54: Selection and erection of electrical equipment - Earthing arrangements and protective conductors
 - Electrical installations of buildings - Part 5-55: Selection and erection of electrical equipment - Other equipment
 - Low-voltage electrical installations - Part 5-56: Selection and erection of electrical equipment - Safety services

AEI Electrical Installation Guidelines

Assignment of Subcommittee Team For 10 Key Strategic Elements Of Electrical Installation Guidelines

- EI-6 – Verification (Reference to IEC60364-6)
 - Proposed TOR
 - To make recommendations to AEI-EI for verification, inspection & installation of electrical installations
 - IEC 60364-6: Low voltage electrical installations - Part 6: Verification

AEI Electrical Installation Guidelines

Assignment of Subcommittee Team For 10 Key Strategic Elements Of Electrical Installation Guidelines

- EI-7 – Special Location Installation (Reference to IEC60364-Part 7)
 - Proposed TOR
 - To make recommendations to AEI-EI with electrical installation in special locations to be defined.
 - Reference
 - Part 7-701: - Locations containing a bath or shower
 - Part 7-702: - Swimming pools and fountains
 - Part 7-703: - Rooms and cabins containing sauna heaters
 - Part 7-704: - Construction and demolition site installations
 - Part 7-705: - Agricultural and horticultural premises
 - Part 7-706: - Conducting locations with restricted movement
 - Part 7-708: - Caravan parks, camping parks and similar locations
 - Part 7-709: - Marinas and similar locations
 - Part 7-710: - Medical locations

AEI Electrical Installation Guidelines

Assignment of Subcommittee Team For 10 Key Strategic Elements Of Electrical Installation Guidelines

- EI-7 – Special Location Installation (Reference to IEC60364-Part 7)
 - Reference
 - Part 7-711: - Exhibitions, shows and stands
 - Part 7-712: - Solar photovoltaic (PV) power supply systems
 - Part 7-713: - Furniture
 - Part 7-714: - External lighting installations
 - Part 7-715: - Extra-low-voltage lighting installations
 - Part 7-717: - Mobile or transportable units
 - Part 7-718: - Communal facilities and workplaces
 - Part 7-721: - Electrical installations in caravans and motor caravans
 - Part 7-722: - Supplies for electric vehicles
 - Part 7-729: - Operating or maintenance gangways
 - Part 7-740: - Temporary electrical installations for structures, amusement devices and booths at fairgrounds, amusement parks and circuses
 - Part 7-753: - Heating cables and embedded heating systems

AEI Electrical Installation Guidelines

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- EI-8 – Energy Efficiency (Reference to IEC60364-8-1)
 - Proposed TOR
 - To make recommendations to AEI-EI for energy efficiency of electrical installation. To provide additional requirements, measures and recommendations for the design, erection and verification of all types of low-voltage electrical installation including local production and storage of energy for optimizing the overall efficient use of electricity
 - Reference
 - IEC 60364-8-1: Low voltage electrical installations - Part 8-1: Energy Efficiency

AEI Electrical Installation Guidelines

Assignment of Subcommittee Team For 10 Key Strategic Elements Of Electrical Installation Guidelines

- EI-9 – Prosumer Installation (Reference to IEC60364-8-2)
 - Proposed TOR
 - To make recommendations to AEI-EI for should cover impacts of Smart Grid on LV electrical installation including the prosumer installation (Prosumer: entity or party who can be a producer and a consumer of electrical energy). The scope includes local production and/or storage of energy in order to ensure compatibility with the existing and future ways to deliver electrical energy to current-using equipment or to the public network by means of local sources
 - IEC 60364-8-1: Low voltage electrical installations - Part 8-2: Prosumer's low-voltage electrical installations

AEI Electrical Installation Guidelines

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- EI-10 – Evolutions of Electrical Installation
 - Proposed TOR
 - To make recommendations to AEI-EI for future evolutions of electrical installation such as DC Supply, Battery Storage Technologies etc.

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Proposed Methodology

- Assignment of Country NWG to lead
- Proposed Terms of Reference for each assignment (Reference to existing standards)
- Comparison with all country national codes/standards/regulations
- Identification Of Barriers

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Q&A