

THE ELECTRIC VEHICLE CHARGING COMPARTMENT PLANNING GUIDELINES

Part 1



CLIENT ALERT: EV CHARGING COMPARTMENT PLANNING GUIDELINES

Iman Ishak briefly explores the recommendations under the Electric Vehicle Charging Compartment Planning Guidelines.

Introduction

In 2022, the Energy Commission (“**EC**”) issued the Guide on Electric Vehicle Charging System (“**EVCS**”) (“**EVCS Guide**”). Other than the technical specifications and requirements for an EVCS, the EVCS Guide briefly specified the installation location requirements for a EVCS in single detached dwellings and multi-family dwellings (i.e. apartments and condominiums) as well as commercial and public access to an EVCS.

The EVCS Guide serves primarily as a rulebook on the technical requirements of an EVCS applicable to electrical contractors and engineers alike. Whilst the EVCS Guide is clear on technical requirements of charging devices, such as the modes of charging permitted by the EC, at its time of issuance, there was still a need for a guideline setting out the requirements in respect of charging bays.

Appropriately, the Town and Country Planning Department (“**PLANMalaysia**”) under the Ministry of Local Government Development issued the Electric Vehicle Charging Compartment Planning Guidelines (“**EVCCP Guidelines**”) in September 2023 (the “**Guidelines**”).

The EVCCP Guidelines were issued to assist state authorities, local authorities, and all relevant stakeholders in the planning, design, and provision of Electric Vehicle Charging Bays (“**EVCBs**”).

Summary of Recommendations

The following points are a summary of the EVCCP Guidelines.

1. EVCB Locations

According to the EVCCP Guidelines, EVCBs may be placed indoors, outdoors, on roof top levels or anywhere unenclosed.

EVCBs must be placed far from stairs and emergency exits as they may obstruct routes in the event of fires or emergencies.

Generally, the EVCCP Guidelines state that EVCBs may be placed in residential, commercial, and industrial areas, specifically mentioning petrol stations and highway service areas (“**R&Rs**”).



2. Provision of EVCBs by Device Type and Location

Different devices require different levels of electricity supply and present varying degrees of fire risks.

Generally, Alternating Current (“**AC**”) chargers (≤ 22 kW) may be placed indoors or outdoors and at all levels in a building, including the rooftop. The EVCCP Guidelines, however, suggest that Direct Current (“**DC**”) chargers (>22 kW) should only be placed on the lower ground, ground, first, and second floors only, or at the rooftop where it is unenclosed. DC chargers can, of course, be placed outdoors.

3. Number of EVCBs

For existing developments, the number of EVCBs will be based on demand and this applies to new developments of landed properties as well.

For new multi-storeyed strata developments, developers are encouraged to provide EVCBs in the amount of two per centum (2%) of the total number of parking spaces available. A minimum of one EVCB for motorcycles is recommended. At least one EVCB must be designated at the visitor parking space. It is encouraged that the EVCB designated for visitors is accessible by persons with disabilities, as a common use facility. Similar requirements are recommended for new non-residential developments.

4. EVCB Size

The size of existing EVCBs may conform with the standard parking lot size requirements. However, new bays should conform to the recommended 2.5m x 6m minimum size for EVCBs and 3.5m x 6m minimum size for EVCBs designated for persons with disabilities.

5. Separation of EVCBs and Regular Parking Bays

The EVCCP Guidelines propound two methods of separating EVCBs with regular parking bays in new developments i.e. via distance between the two types of bays; and via fire separating walls.

The separation requirements are applicable for new developments and depend on factors such as device type, total floor area and location of EVCBs (i.e. whether indoors or outdoors).

For AC devices, the minimum distance of separation is 2.5m on each side of an EVCB, and may be made up of pedestrian walkways, road reserves, or perimeter plants. It is encouraged for EVCBs to be placed in a cluster. These recommendations are also applicable for DC devices placed outdoors, on rooftop carparks, service areas, and petrol stations.

For DC devices placed indoors, if the floor area for the EVCB(s) is more than 216m², a fire separating wall of at least 1.5m in height and a fire resistance rate of 2 hours is recommended. If the floor area for the EVCB(s) is less than 216m², the EVCBs can either be separated with a distance of 5m on each side, or with a fire separating wall of at least 1.5m in height and a fire resistance rate of 2 hours.



6. Wet Riser, Dry Riser, and Fire Hydrants

The EVCCP Guidelines recommend that DC chargers are not placed beyond 30m from the landing valves of wet risers, dry risers, and fire hydrants.

7. Automatic Sprinkler Systems

Existing properties with DC chargers, and future developments with any type of charger (whether AC or DC) will be required to have automatic sprinkler systems. The type of automatic sprinkler system required depends on the placement of the EVCBs, whether at underground levels or at other levels.

8. Main Isolation Switches

Main isolation switches are a recommended necessity for EVCBs. The EVCCP Guidelines stipulate that the distance of switches from EVCBs or electric vehicle charging points ("**EVCs**") shall be at least 3m but less than 15m. The main isolation switch may be utilised by multiple EVCs. It is recommended to connect an isolation switch to a fireman switch. A main isolation switch is recommended to be between 800mm and 1200mm in terms of height and placed where visible and easily accessible. The main isolator switch must be labelled with cleared instructions.

9. Vehicle Fire Blankets

Vehicle fire blankets ("**VFBs**") are required on-site. The number of VFBs needed on standby depend on the number of EVCBs at the site. If there is only 1 EVCB, 1 VFB is enough. If there are between 2 to 10 EVCBs, 2 VFBs will suffice. If there are between 11 and 15 EVCBs, 3 VFBs will suffice. An additional VFB will be required for a further addition of between 1 to 5 EVCBs.

10. EVCBs at Petrol Stations

In respect of EVCBs situated at petrol stations, the EVCCP Guidelines stipulate that an EVCB's distance from fire hydrants should not be more than 90m. The EVCB's distance from refilling points and vent pipes must be at least 12m. The EVCB's distance from designated oil tanker parking areas must be at least 6m. EVCB's distance from fuel dispensing units must be at least 8m. The EVCCP Guidelines further discuss the on the electrical connections within the EVCB area, the required EVCS enclosures, and the measurements of, and barriers surrounding, the EVCB area.

11. EVCBs at R&Rs

Similarly, the EVCCP Guidelines specify the recommendations on an EVCB's distance from fire hydrants being not more than 90m, the 2.5m distance between each EVCB, as well as the yellow hatching and barriers required for the gaps.

12. EVCBs on an Open or Unenclosed Roof

The EVCCP Guidelines also address the recommended maximum distance of 30m between an EVCB and a fire hydrant, or a landing valve wet riser or a dry riser, the 2.5m distance between each EVCB, as well as the yellow hatching and barriers required for the gaps.

13. EVCBs for Electric Motorcycles

The EVCCP Guidelines recommend that one EVCB for electric motorcycles be provided at each new development, with a minimum size of 1m x 2m or as determined by the relevant local council. Battery swapping stations should not impede pedestrian walkways and parking lots for persons with disabilities.

14. EVCBs for Electric Buses

The minimum sizes recommended for EVCBs for electric buses are 3m x 12m for regular buses (with a potential load of a minimum of 25 passengers) and 3m x 7.5m for minibuses (with a maximum load of 25 passengers), or as determined by the relevant local council.

15. EVCBs for Electric Lorries

The minimum sizes recommended for EVCBs for electric lorries are 3m x 12m for small lorries, 4m x 15m for large lorries, and 4m x 18m for trailers, or as determined by the relevant local council.



EVCB Components

The EVCCP Guidelines further recommend the following components as accompaniments to EVCBs, for the safety and comfort of EV users:

- Closed-circuit televisions (CCTVs)
- Waiting area
- (Universal design of EVCBs (e.g. to accommodate persons with disabilities)
- Information plaque to notify consumers of price, payment methods, use procedures and digital applications
- Wheel stops
- Awnings
- Sufficient sunlight

Enforceability

Typically, guidelines issued by PlanMalaysia are published to assist local authorities in adopting the standard makeup of infrastructure requirements across the country. This is evident in first paragraph of the EVCCP Guidelines. The Court of Appeal in *Ramachandram Appalanaidu & Ors V. Dato Bandar Kuala Lumpur & Anor [2012] 1 LNS 625* in its verdict about the Total Planning and Development Guidelines No. 1/2001, which had similar introductory passages with the EVCCP Guidelines, that it was “...quite obviously nothing more than mere advisory literature, although issued by the town and country planning department. They have no force of law. Neither are they directives which need to be complied with, unlike the Garis Panduan referred to above.” The Garis Panduan referred to the Garis Panduan Pembangunan Di Kawasan Bukit.

As opposed to a development plan, which requires gazettelement and therefore compliance by the stakeholders, any enforcement of the EVCCP Guidelines would first require adoption of the EVCCP Guidelines by the relevant local authority. Regardless of its enforceability, we do advise that, where possible, developers of new and existing projects follow the recommendations put forth in the EVCCP Guidelines, as a minimum.

Please also note that the Malaysian Fire and Rescue Services Department (Bomba) has issued guidelines for electric vehicle charging stations located within commercial premises.



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